

Manufacturers RECORD

An Exponent of Americanism

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What Shall the Harvest Be?

"As a man soweth so shall he reap," is as true of a nation as of individuals.

What we sow at the Peace Conference we shall reap. If we sow the seeds of distrust, of a presumptuous assumption of any right to dictate the terms of punishment of Germany and its allies, we shall assuredly reap a harvest of world distrust, if not of world hatred.

If we try to save Germany from full punishment, our Allies, who bore the brunt of the struggle and had 10,000,000 casualties as compared with our 300,000 or thereabouts, will be compelled, even against their will, to feel that we had assumed a dictatorship which does not belong to us and to which they could not and would not yield obedience.

In olden days the chosen people of God were warned that if in their hearts they said "My power and the might of my hand hath gotten me this wealth," they should surely perish. If today America should claim that its power and might had brought this great victory, and vaingloriously boast of its achievements, it would surely be sowing the seeds of destruction of its higher and nobler life, if not of its material strength.

Out of this war we have enormously increased our wealth in material things. Our heroic dead are so few in number that as a nation we are infinitely greater and stronger by reason of the training in sacrifice and service. But over in Europe our Allies have been bled almost unto death in manhood and in money, and every drop of blood they shed helped to save us, and every dollar they expended helped to enrich us.

It behooves us, therefore, to remember these things, and bearing in mind that they must live next door to the people who for 2000 years have periodically ravished Europe, leave to them the full measure of punishment which must be inflicted upon a nation of moral perverts, rapists, manglers of children, murderers of millions and pillagers without limit, whose crimes have for four years covered the world with anguish and woe. Otherwise we shall reap a harvest of humiliation and sorrow, and perhaps of unexpressed but latent hatred of millions whose love we now hold.

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South Bethlehem, Pennsylvania

PIG IRON: Basic, Bessemer, Foundry, Low Phosphorus, Mayari, Ferro-Manganese, Spiegeleisen.

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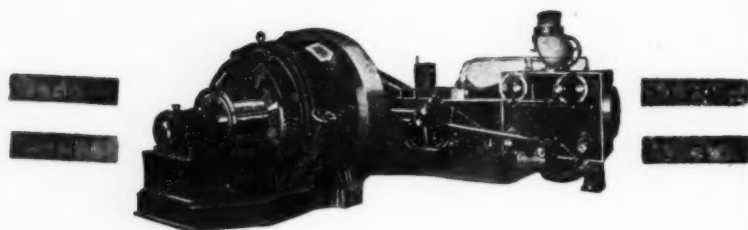
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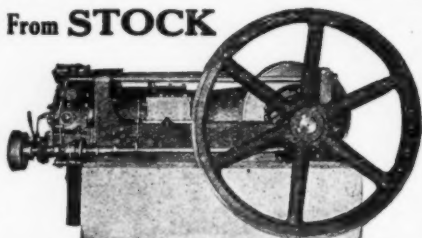
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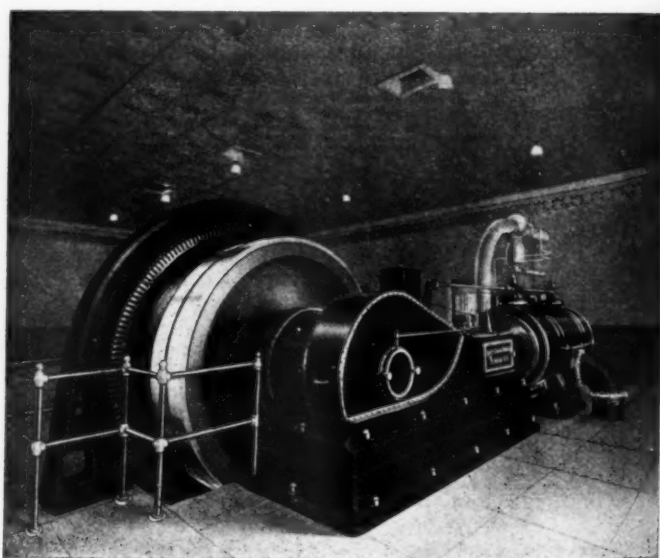
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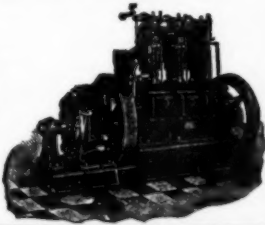
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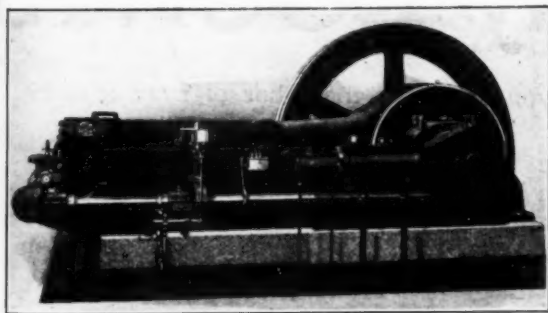
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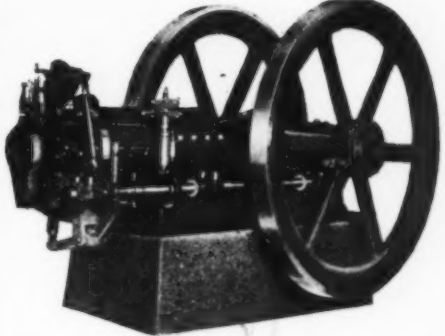
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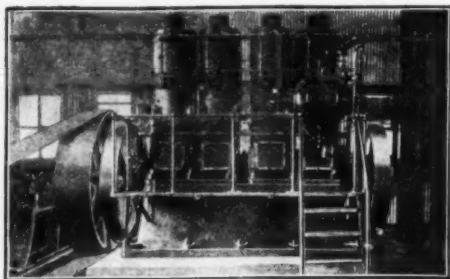
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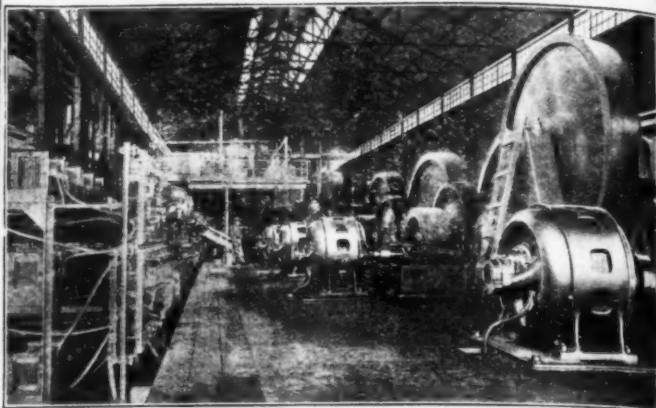
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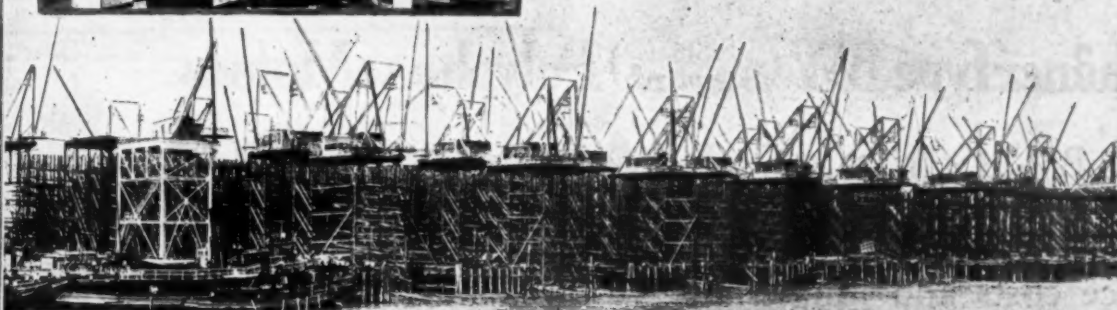
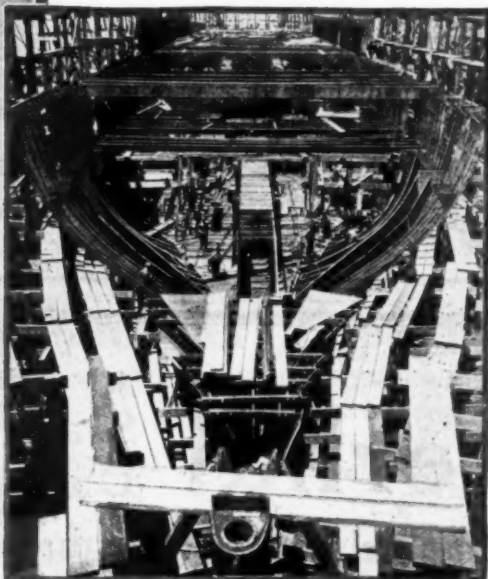
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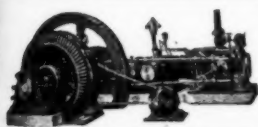
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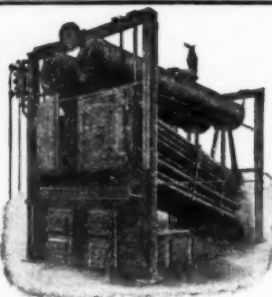
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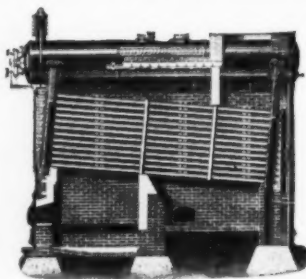


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Can be arranged for superheater or
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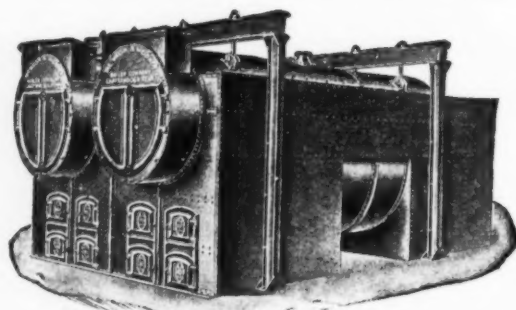
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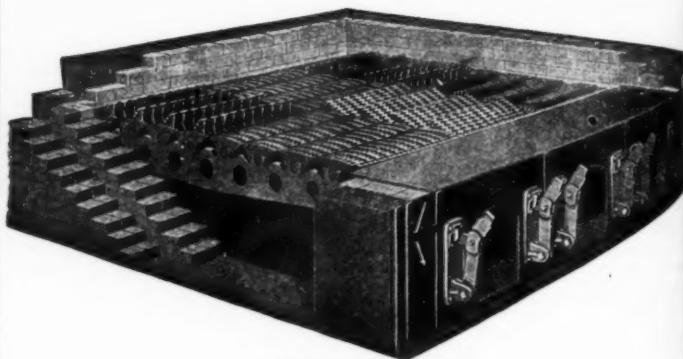
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WITHOUT
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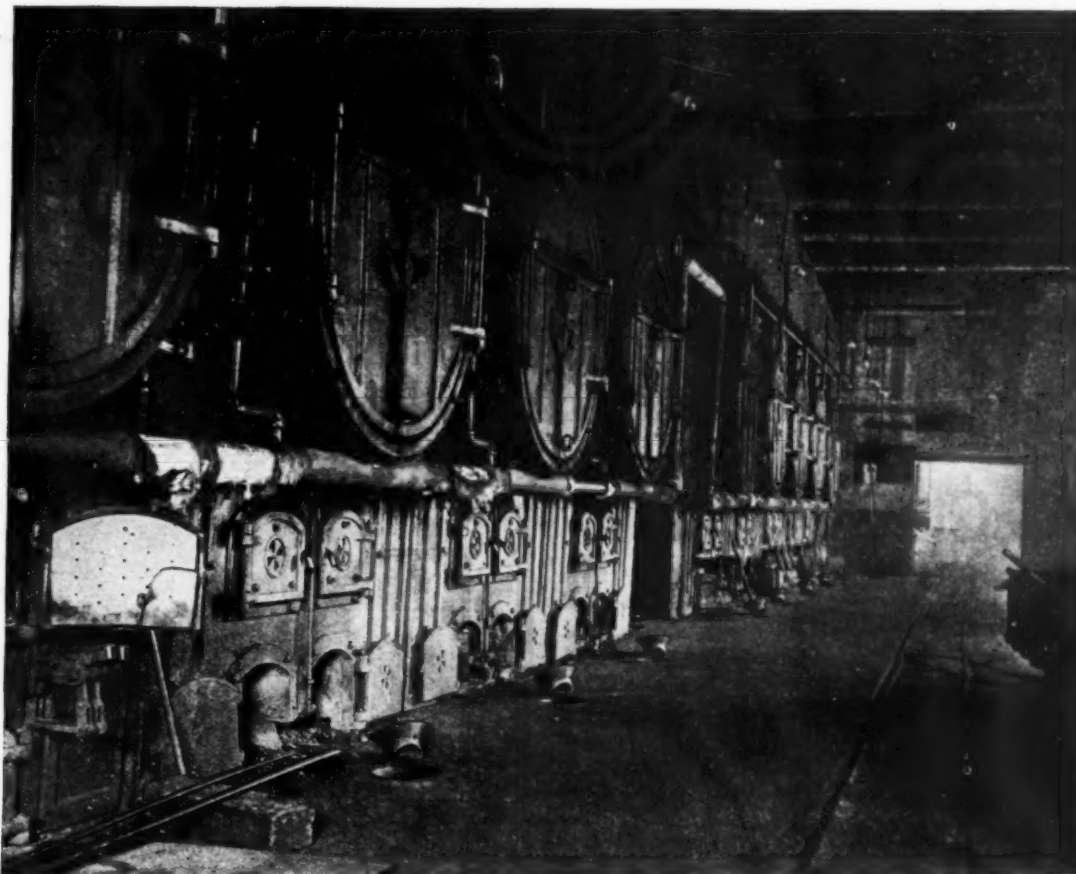
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THE J. & J. Rogers Company, Ausable Forks, N. Y., were so pleased with the installation of the Vacuum Ash and Soot Conveyor at this plant that they ordered immediately a duplicate system for their paper mill. This installation is shown above and is located at the Palmer Mills, Three Rivers, Mass.

The Suction Ash Conveyor

at this plant handles the ashes from nine B. & W. Boilers. This line consists of 85 feet of horizontal pipe with one hopper intake in front of each boiler. Then through a 90° elbow, vertically 23 feet and finally through a second 90° elbow running 10 feet horizontally to the tank of 30 tons capacity built between the walls of the Boiler-room and the Power Plant.

A few of the many advantages of the SUCTION ASH CONVEYOR are its noiseless and dustless operation, the ashes are DRAWN—not blown—through the pipes. Consequently the pipes are not subjected to the sand-blast wearing action of the ordinary steam conveyor. Another big feature is the fact that the ashes are handled DRY—no chance of a freeze-up in winter.

A test made on one of our installations shows ashes moved at approximately 6 cents per ton.

• Our engineers will gladly show how this economical ash handler can be adapted to your plant. Write TODAY.

The Vacuum Ash and Soot Conveyor Company

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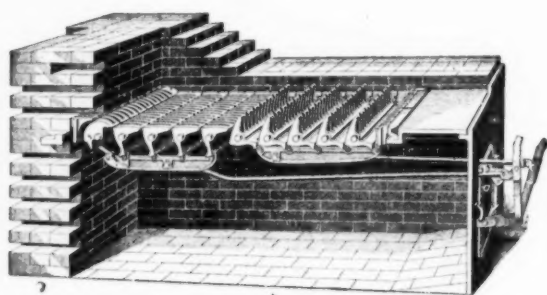
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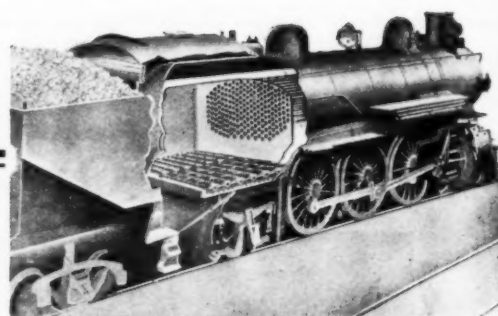
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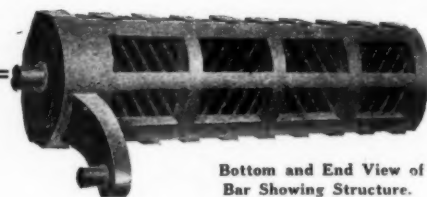
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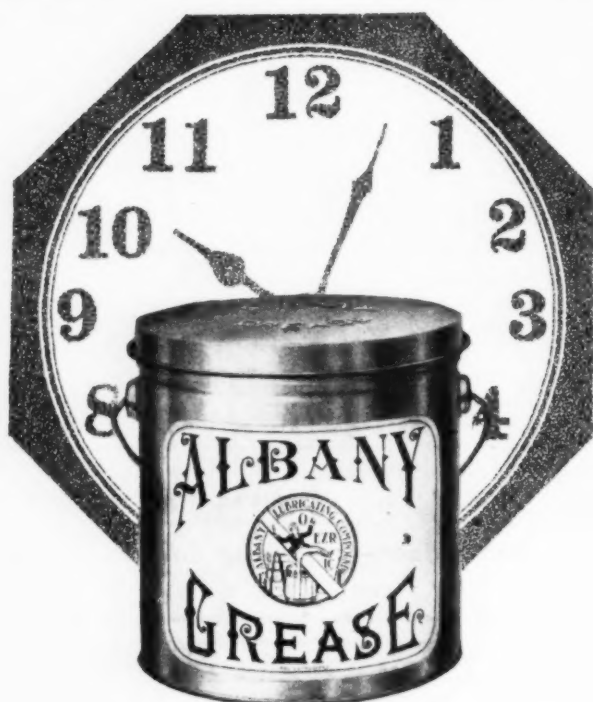
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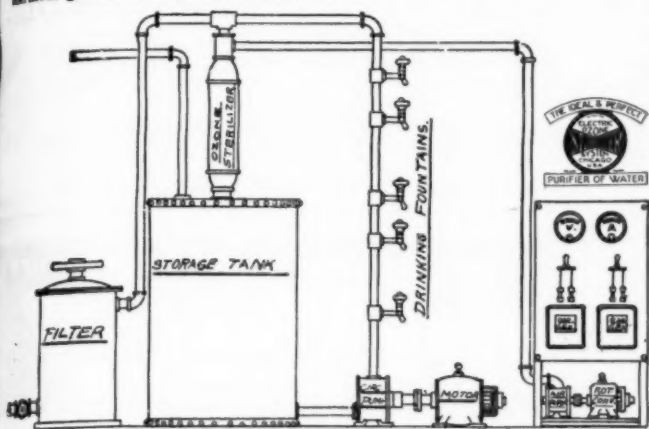
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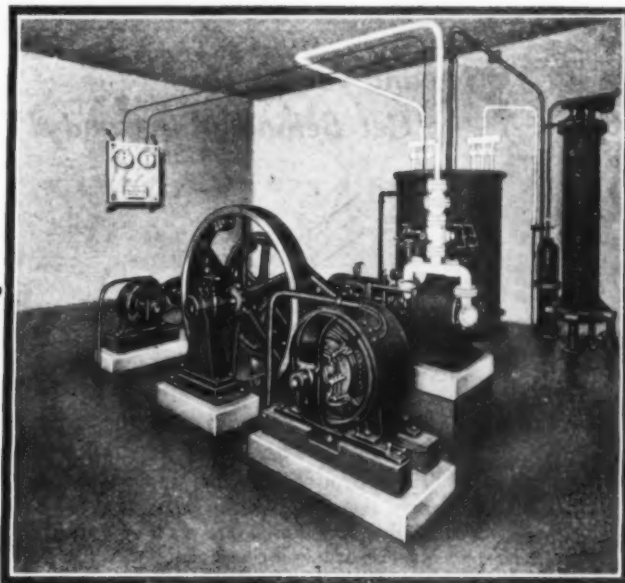
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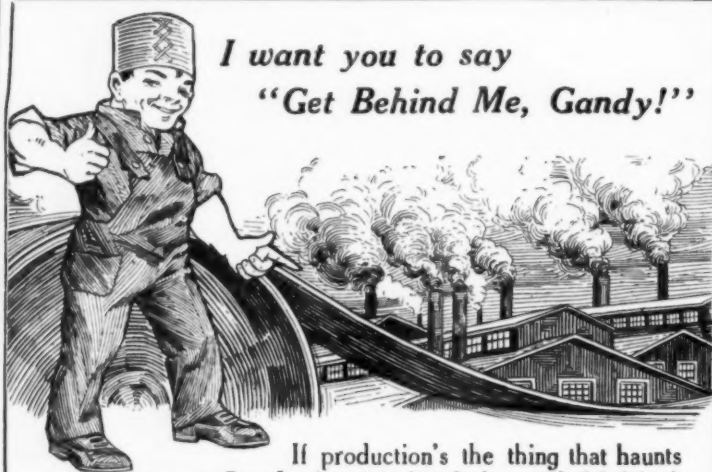
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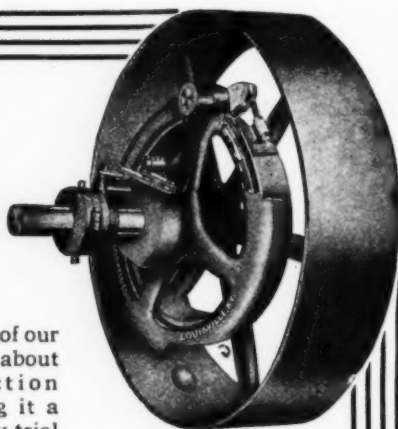
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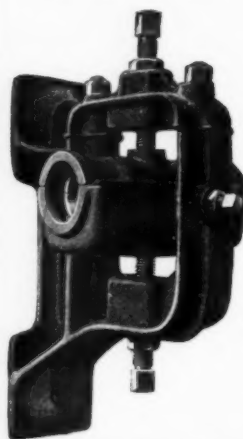
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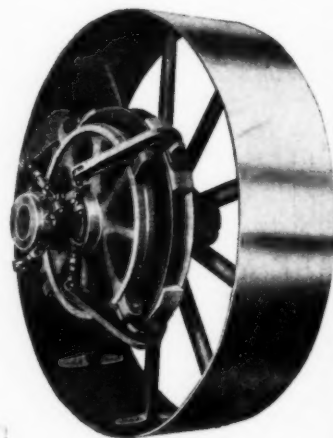
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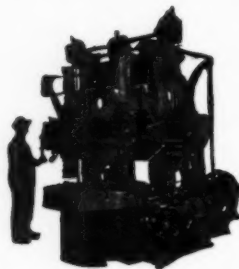
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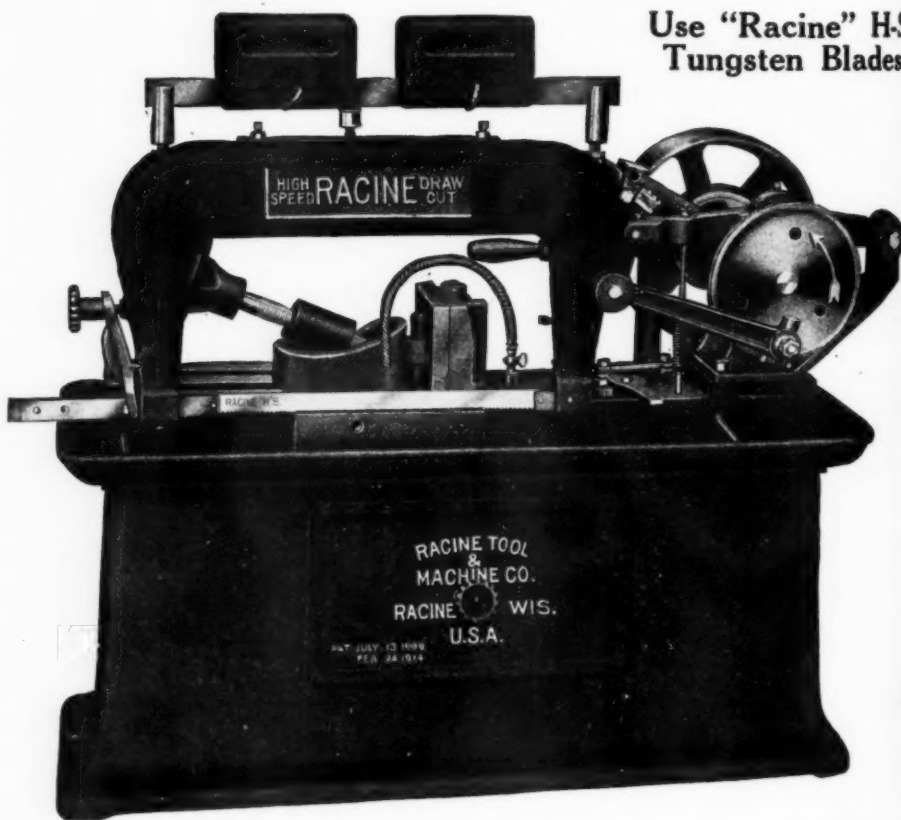
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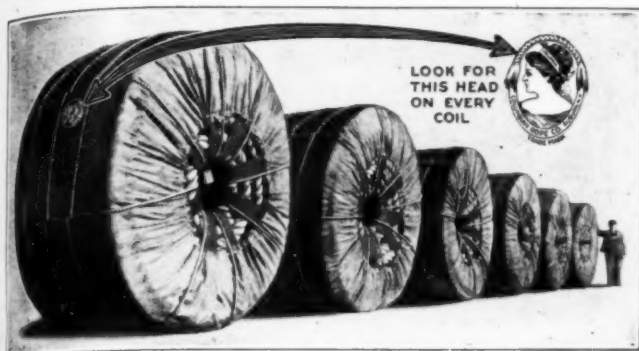
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Use "Racine" H.S. Tungsten Blades

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RACINE, WISCONSIN U. S. A.



Where Reliability is of the Utmost Importance

Select Columbian Pure Manila Rope, because

- it is made of the highest grade, long fibre, pure Manila.
- it is always uniform in size, lay and strength,
- and there are no weak spots.

Columbian Manila Rope

- is rigidly inspected and carefully tested before leaving the mill.
- it stands hard service under the most trying and unusual conditions.
- is exactly as represented—the best rope at any price.
- and most important of all, it is absolutely reliable.

Order Through Your Jobber

COLUMBIAN ROPE COMPANY

AUBURN, N. Y.

"The Cordage City"

Branches: NEW YORK BOSTON CHICAGO

The only way to keep in touch with Southern Development is by reading the Manufacturers Record.

AMERICAN STEEL SPLIT PULLEYS

Big power and coal savers.

Guaranteed for minimum belt slip, minimum air resistance, double belt service.



Write for valuable book "Getting Maximum Pulley Efficiency." Free on request.

THE AMERICAN PULLEY CO.
PHILADELPHIA, PA.

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You Can Do Almost Anything With Cams

We are specialists in designing and building automatic machinery using cams.

Manufacturers using operatives on hand work, submit your operations to us and let us suggest how it can be done by machinery.

We design and build all kinds of special machinery.

DELAWARE MARINE MOTORS COMPANY

Foot of Commerce Street, Wilmington, Del.

FORD TRIBLOC



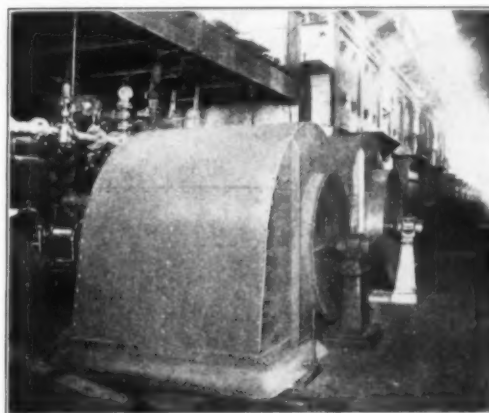
Lifts Everything Hot or Cold—Liquid or Solid

ANYTHING that can be hung directly on a hook or held in a container that will hang on a hook is safely and speedily lifted by a Ford Tribloc Chain Hoist. No danger of spilling things hoisted by the Ford Tribloc. It is equipped with the patented LOOP Hand Chain GUIDE that makes hoisting or lowering smooth, through preventing "gagging" of chains in the blocks. Steel working parts, too, add to their safety.

Our Catalog gives interesting details

FORD CHAIN BLOCK & MFG. CO.
Second and Diamond Sts., Philadelphia, Pa.

2144-D



SOLVE your fuel problem right now with Buffalo Stoker Fans.

Write Dept. 53

BUFFALO FORGE COMPANY

Buffalo, N. Y.

"Buffalo"

WEBSTER MACHINERY

for

Conveying, Elevating and Loading

IN the beginning—over forty years ago—Webster Machinery was as good as we knew how to build.

The same standard of goodness applies today—will always apply.



In a Coal Mine Tipple

An honestly good product, intelligently designed to meet certain specific needs—that is the service provided by Webster Equipment.

Used in 32 industries—Grain Elevators, Coal Mines, Power Houses, Sand and Gravel Plants, Chemical Plants and in any industry where extensive handling of materials is a factor.

Let Webster Engineers make suggestions for the application of Webster Machinery in your business. Let them indicate the possibilities in profit and volume so often brought about.

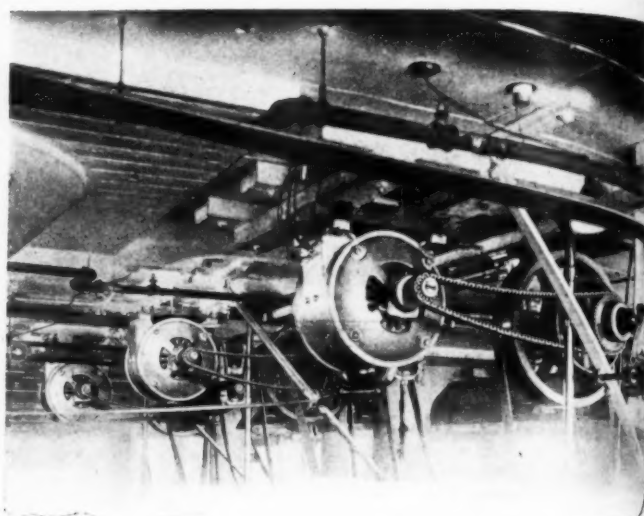
The Webster M'f'g Company

TIFFIN, OHIO

Chicago

New York

[254]



Driving Countershafts, American Tool Works.

Cost-Finding and Cost-Keeping

BELTING is the biggest factor in Factory Production, the lowering of costs and securing uniform product.

You hear manufacturers fume and fuss over their belting trouble, and others say, "I won't buy belts; they slip and are easily 'burnt' and ruined, always causing 'shut-downs' and loss."

"LOOK at those rolls of old belts," "JUNK." "Just a pile of costly mistakes." "No one ever knows 'that loss.'"

PRODUCING MORE WITH LESS

That's WHY the Leaders of Industry buy 99% efficient MORSE Roller Joint Silent Chain Drives and insure against competition.

Do you know—That it's elastic; it never slips. That—it's as positive as gears. That—having short centers, it saves space and construction costs. That—the light is not obstructed. That—no static electricity is produced to cause accidents. That—no air currents are spreading dust and dirt. That—no Oil Baths are required. That—it is the longest life, with minimum wear and care, transmission known.

AFTER-WAR MARKETS ARE RUSH MARKETS

These are facts that should make you sit up and take notice what your competitors are doing.

HAVE YOU READ ANY OF THE FREE BOOKLETS WE SEND OUT?

MORSE ENGINEERING SERVICE

Let our Industrial Engineers work with you and design your transmission power service, Saving Construction Costs, Light, Space, Power and Maintenance.

Let us have your general layout and design a chain drive to suit the special existing conditions.

MORSE Drives insure profits against competition.

LARGEST MANUFACTURERS OF CHAIN DRIVES IN THE WORLD

MORSE CHAIN CO., ITHACA, N.Y.

ENGINEERING SERVICE OFFICES:

BOSTON, Mass., 141 Milk Street	KANSAS CITY, Mo., Morse Engineering Co.
CHICAGO, Ill., Merchants L. & T. Bldg.	R. A. Long Building.
CLEVELAND, O., Engineers Bldg.	MINNEAPOLIS, Minn.,
DETROIT, Mich., 1003 Woodward Ave.	Strong-Scott Mfg. Co.
GREENSBORO, N. C., 805 Ashboro St.	413 Third Street, S.
NEW YORK CITY, 50 Church Street	ST. LOUIS, Mo., Morse Engineering Co.
PITTSBURGH, Pa., Westinghouse Bldg.	Chemical Building.
SAN FRANCISCO, Cal.,	LICENSEES FOR EUROPE AND
Monadnock Bldg.	EASTERN HEMISPHERE
ATLANTA, Ga., Earl F. Scott, M.E.	The Westinghouse Brake Co., Ltd.
Candler Building.	82 York Road, King's Cross, London, S.
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Montreal, St. Nicholas Building.	
Toronto, Bank of Hamilton.	

Secure Our 1919 Vest-Pocket Diary and Data Book

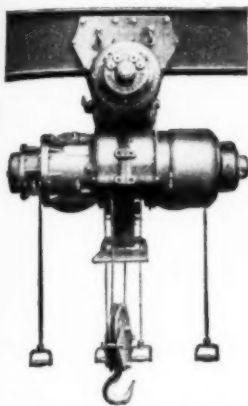


THE SHEPARD LINE OF CRANES AND HOISTS IS COMPLETE -

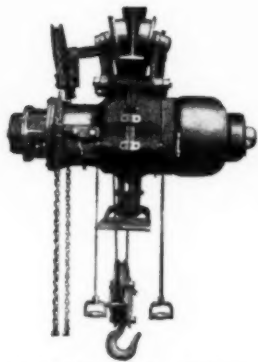
SHEPARD Cranes and Hoists are handling materials in ninety varied industries. The selection and extension of this equipment has been largely governed by the evident superiority of the design and the new standard of reliability in service which it has established.

"Hoist, Buy a Shepard"

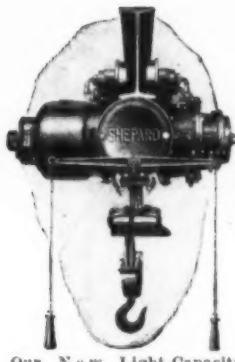
Our New Handbook "M" — describing the complete line—will be sent on request. Write for it Now.



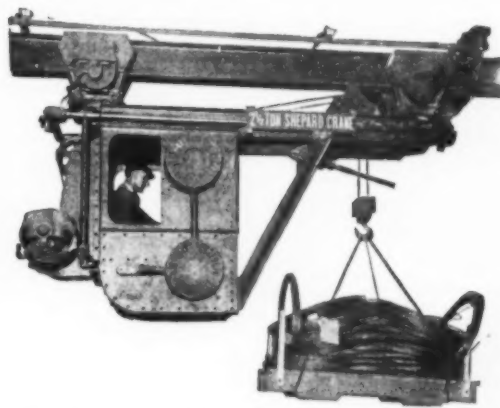
Foundry Control D. C. Hoist, with motor-driven trolley. Especially useful where loads must be carried distances too long for the workmen to push them on the runway efficiently.



One-Motor Hoist, used especially on short runways where it is necessary to get close to the wall with the load.



Our New Light-Capacity Hoist, for handling of loads just too heavy for one man.



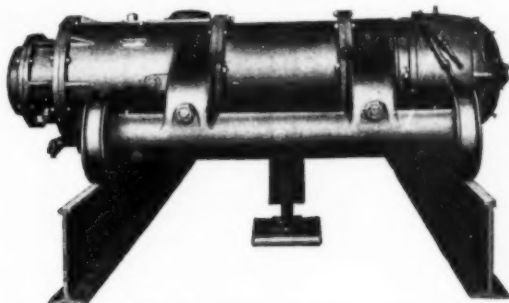
Where groups of small units in trays are to be handled, this type of Hoist has decided advantages, particularly where there are curves in the I-beam runway. It can be supplied with two load hooks where long flexible loads are to be handled.

SHEPARD

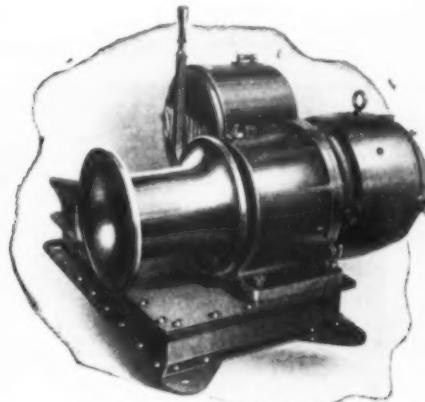
ELECTRIC CRANE & HOIST CO.
New York Montour Falls, N. Y. Pittsburgh
Philadelphia Boston, Baltimore, Birmingham, San Francisco Chicago
Montreal, Melbourne, Austrl. London



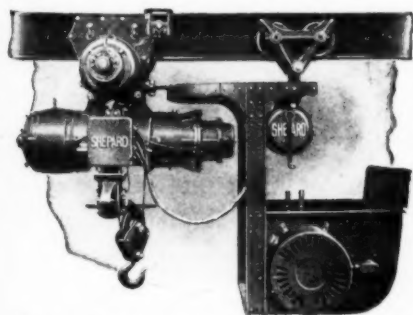
This type is well adapted for service requiring frequent transfer from one location to another. It is especially desirable for contractors' use.



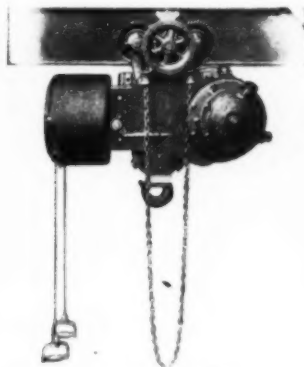
The sterling qualities of the Shepard Crane Trolley are secured by locating steel gearing and multiple discs within right cylindrical frames, completely protected and completely protecting workmen.



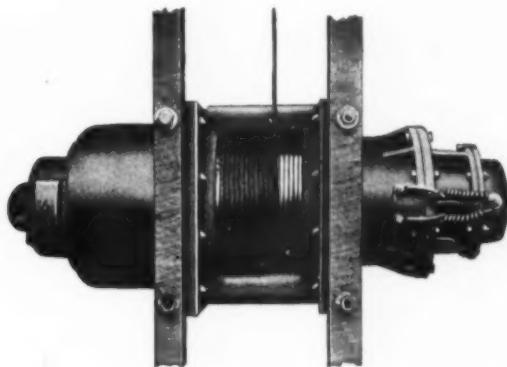
A compact, weather-proof Winch, with running parts completely enclosed and protected from all atmospheric conditions. Its uses are manifold in and about industrial plants.



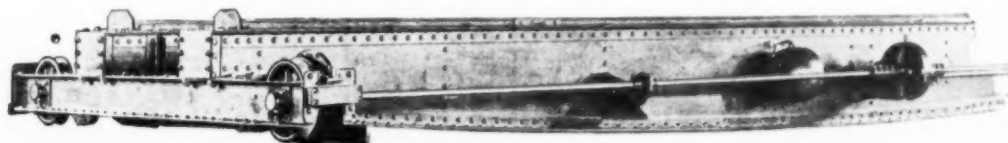
The use of heavy-duty Monorail Hoists, with the flexibility of handling arrangements which transfer switches permits, revolutionizes handling methods in many industries. Can be enclosed for outdoor service.

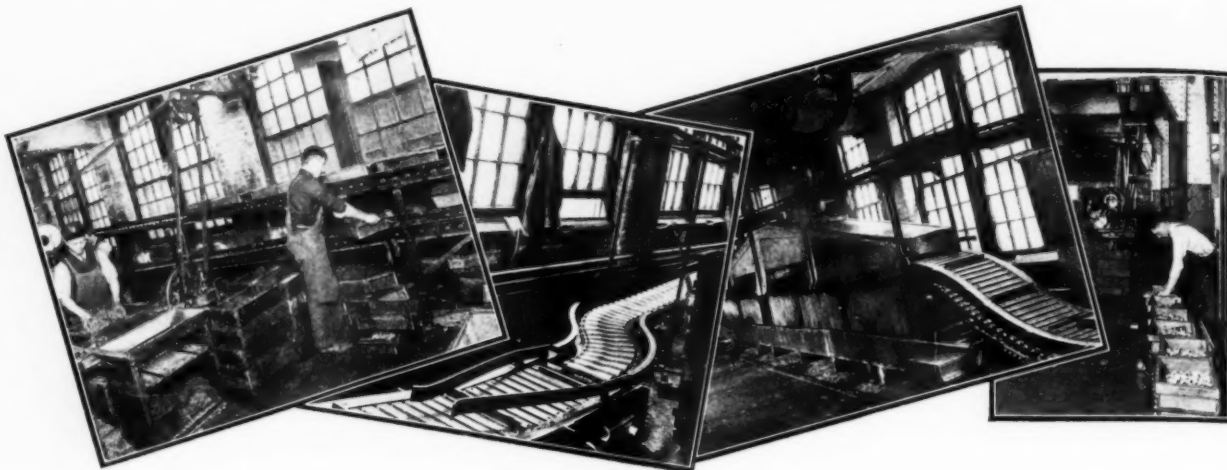


The use of this type of Hoist permits hoist service in low headroom where sufficient lift could not be otherwise obtained.



This Hoist is provided with a base for permanent mounting. It offers convenient means of electrifying derricks, jib cranes and hand power elevators.





CONVEYING MACHINERY

GRAVITY is a giant power at the beck and call of every factory manager—it will easily carry your heaviest burdens without cost if you will but harness this power. Men now doing your trucking can be released for more productive labor; the money you are spending for power can be used for other expenditures of more importance.

We will design a gravity conveyor to fill your special needs, no matter what these needs may be. All Alvey-Ferguson

Conveying Equipment is constructed to stand hard service and to transport goods quickly—efficiently.

If you have some knotty problem on your hands, put it up to us—we will offer an easy solution. Our engineers are at your service. Write today. Ask for Catalog 12.

THE ALVEY-FERGUSON CO., INC.
CINCINNATI OHIO

THE SCOOP CONVEYOR

OVER 1000 USERS

FIND IT INDISPENSABLE IN
STORING AND RECLAIMING,
IN LOADING AND UNLOADING
CARS TRUCKS AND WAGONS

DOES THE WORK OF FROM
6 TO 12 MEN
AND KEEPS
EQUIPMENT
MOVING —

OVER 50% OF
USERS SEND US
"REPEAT"
ORDERS



Ask for Our Literature

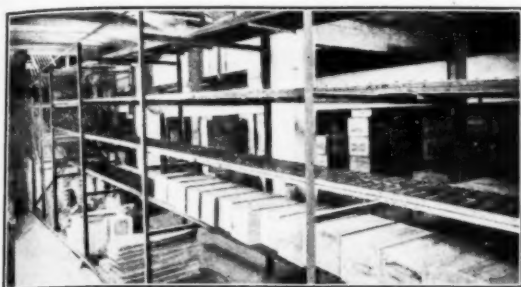
PORTABLE MR.
MACHINERY COMPANY
PASSAIC, N. J.

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WE will give you the practical thing and it will be of a dignity and style that will please you. We've got the equipment; we've got the experience, and we'll deliver the job on time and in perfect order.

Give us a chance to figure on your next big job. Our prices may not be absolutely the lowest, but when you get the work you will be satisfied with it and you will know that the price is low measured by character and quality.

Fleet-McGinley Company
PRINTERS
Baltimore, Maryland



Speeding the distribution of shoe boxes at Brown Shoe Co., St. Louis, Mo.

Gravity Rules Out Carelessness

Carelessness of unskilled labor often costs more than its wages. Delay, breakage, loafing, are unavoidable when conveying is performed by man power. Rule out these costs by use of the

MATHEWS
SPEED ECONOMY
GRAVITY ROLLER CONVEYER

Install this gravity conveying system and you substitute dependability for undependability, speed for slow uncertainty and low upkeep expense for high labor costs.

The Mathews portable or permanent sections of steel ball-bearing roller carry material of every description from one end of a plant to another, around corners, through crowded warerooms when properly linked up with Automatic Elevators and Spiral Chutes.

The experiences of its users have proved that the Mathews Gravity Roller Conveyer pays for itself many times over in reducing labor costs. Write for booklet.

MATHEWS GRAVITY CARRIER COMPANY

114 Tenth Street, Ellwood City, Penna.

Branch Factories: Toronto, Canada—London, England

"Them There Three Little Cuts and Ridgway's Hot Air"

"Is what I find every time the paper comes in," said Old Uncle Isaac, the engineer.

"That sardine ain't afeerd to speak his piece any way he blame pleases."

"And, b'lieve me, I like to read wot he sez about his elevators."

"Oh, yes, we've got 'em. The 'old man' bought 'em long ago."

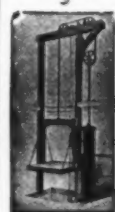
"Gosh, you can't read about 'em long and not get 'em if you need elevators."

"Naw, we never touch 'em, 'cept to file 'em onct-in-awhile. Darn things allus go."

As the baby-fool man says, "We are advertised by our loving friends."



Elevator in Large Soap Factory in Jersey City



Double Geared



Direct Acting

Some day when you are in Philadelphia go down to the big Wanamaker Building, 21st and Washington Ave., and ask the engineer there to show you the 4 Ridgway elevators that have been running in that plant day and night for 6 years and never touched.

After that visit, if you have Steam and Brains and Credit, no matter what else, you will surely

"Hook" 'er to the Biler"

The Ridgway & Son Co.

COATESVILLE, PA.

Elevator Makers to Folks Who Know

Warsaw Elevator Company

T. FRANK WILHELM, Manager

Special Attention Given to Repairs

Office and Warehouse

Mercer, Grant and Water Sts. BALTIMORE, MD.

GRINDING WHEEL DRESSERS

of Every Description

"HUNTINGTON"—"DIAMO-CARBO"—"SHERMAN"

DIAMONDS

The Desmond-Stephan Dresser Co.

URBANA, OHIO

American Elevators Built by **AMERICAN ELEVATOR & MACHINE CO.**
INCORPORATED
LOUISVILLE KY.

ELEVATORS MOFFATT MACHINERY MFG. CO.

HAND—BELT—ELECTRIC
AND HYDRAULIC

MACHINISTS AND FOUNDERS
CHARLOTTE, N. C.

Standard for a third of a century.
Passenger and Freight.
All Powers.

TURNER ELEVATORS
K. C. ELEVATOR MFG. CO.
(Established 1881)
2601-3-5-7 Madison Ave., Kansas City, Mo.

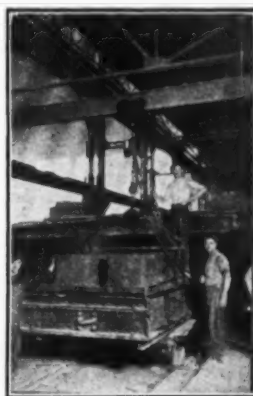
Long Life Bushings In Spite of Neglect

Oil-less Bushings

"NIGRUM" (Impregnated Wood) "BOUND BROOK" (Graphite-and-Bronze)

Trade Mark Reg. U. S. Pat. Off.
All genuine Graphited Oil-less Bushings have always been made at Bound Brook, U. S. A.
BOUND BROOK OIL-LESS BEARING CO.
Bound Brook New Jersey
Specialists in the manufacture of Oil-less Bushings for more than a third of a Century

You Get the Speed, Lift and Endurance



WITH
WRIGHT
High Speed Chain
Hoists

They are doing first rate work in shops, foundries, factories and wherever a hoist can be used.

Catalogue R-16 is ready

WRIGHT MFG. CO.
LISBON, OHIO

Loading Trucks at Annealing Ovens with Wright High Speed Hoist

Names of local distributors are obtainable telephoning "Buyers' Aid."



The picture shown above is very simple—merely a motor-truck and a concrete road;

And yet, simple as it may appear, it typifies at once the South's greatest need and greatest opportunity—the readjustment of the road surface to the new freight vehicle for the hauling of heavier loads with greater dispatch at reduced power cost and lessened wear on the road.

The above view duplicated on all main highways in the South will mean an unparalleled development in agriculture and commerce.

Public spirited citizens desiring to inform themselves on how to permanently readjust roads to meet new conditions in their respective communities may obtain such information by addressing:

Standard Portland Cement Co.
BIRMINGHAM, ALA.



**A
Concrete
Road
Is
Permanent**

SAVES GASOLINE

CONNECTS
FARM WITH CITY

NO MUD NO DUST

Write us for free copy
Concrete Highways

DIXIE PORTLAND CEMENT CO.
CHATTANOOGA, TENN.

Clinchfield Service

STANDS BEHIND

CLINCHFIELD PORTLAND CEMENT

In addition to getting a cement of the highest quality and uniformity you get a co-operative service in the handling of orders and shipments that means money saved on your work.



A Trial Order Will Convince You

**CLINCHFIELD PORTLAND
CEMENT CORPORATION**
Sales Offices and Mills, Kingsport, Tenn.

Branch Sales Offices:

CINCINNATI, O., 1306 Union Trust Building.
SAVANNAH, GA., 413-415 American Bank & Trust Bldg.

Southern States Portland Cement



We produce only one grade

THE HIGHEST

ALWAYS UNIFORM

Southern States Portland Cement Co.

Office and Mills—ROCKMART, GA.

Laclede

**REINFORCING
STEEL**

Plain Round
Plain Square
Deformed Round
Deformed Square
Twisted Square

LACLEDE STEEL CO., Federal Reserve Bank Bldg., ST. LOUIS, MO.
Works at Madison, Ill. and Alton, Ill.

Proposals advertised in the Manufacturers Record bring good results.

Marine "VITA" Glue

Sets and stays in seams.

Has tenacity and vitality.

For samples and prices, write to

BINNEY & SMITH COMPANY

81 Fulton Street, New York

Green Fuel Economizer Co.

NEW YORK, N. Y.

Builders of Green Fuel Economizers
and Mechanical Draft Fans

SAND FOR CONCRETE

Washed and Screened. Equipped to fill large orders. Prompt Service.

MACON FUEL & SUPPLY CO.
MACON, GA.

Agents Standard Portland Cement



Compact—Easy to Handle

The easy handling of "Steelcrete" speeds up work and reduces labor. It saves time and cost. It is compact. It saves space.

"Steelcrete" is rigid. Two unskilled men can quickly place even the big 16-ft. sheets. Once in position, walking on the sheets will not displace them.

For all work that is in accord with our Government's war program "Steelcrete" is readily obtainable.

The
Consolidated Expanded Metal Companies

Braddock, Pa. (Manufacturers)

Pittsburgh

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New York...Expanded Metal Engineering Co.
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Dallas...Builders Metal Products Co.
Toronto, Canada...Baines & Peckover

Cutting Pattern Losses with Slag Concrete

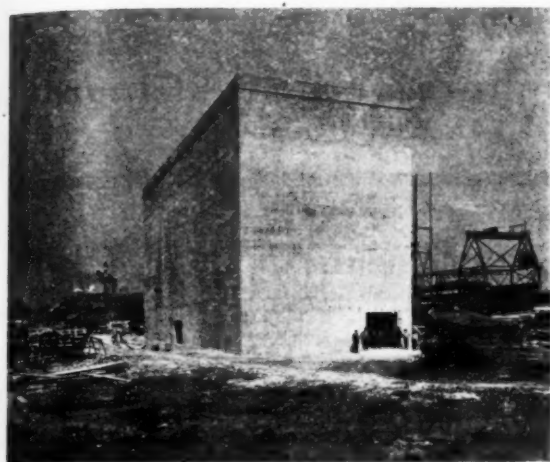
The storing of patterns involves something more than the provision of merely four walls and a roof.

They must be protected from fire, moisture and the elements.

For this purpose, reinforced concrete in which slag has been used as the coarse aggregate has proved to be a most reliable material.

Slag gives to concrete many favorable qualities unattainable with the use of stone or gravel aggregate.

Slag aggregate bonds readily and thoroughly, thus a tough homogeneous concrete is assured—a concrete that is impervious to moisture, absolutely fire-safe and repair-free.



Modern fire-safe pattern storage building erected at Ohio Works of Carnegie Steel Co.

Slag concrete will not disintegrate—it improves with age.

Though it is the lightest form of coarse aggregate available, slag provides a concrete that is unsurpassed in structural solidity.

At economical points of distribution this material may be secured in any quantities for prompt shipment to the job.

Carnegie Steel Company

464 Frick Building Annex, Pittsburgh, Pa.

L. 78

STEEL

WHEN YOU WANT IT

Now Then
Let's All Get Busy

Get your Steel orders placed right away; there's a powerful lot of Steel being asked for. Incidentally, our warehouses are full just now and "first come, first served."

Warehouse Stocks

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| High Speed Steel | Tool Holder Steel |
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| Chrome and Nickel Steels | Annealed Punch and Die Steels |
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| Pick, Wedge and Hammer Steels | Machinery Steels |
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| Music Wire for Springs | Tempered Spring Wire |
| Cold Rolled Steels | Drawn Steels |
| Forgings, Specialties | Iron |

Century Steel Works
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Aborn Steel Company, Inc.
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PHILADELPHIA, PA. 269 Drexel Building
BUFFALO, N. Y. 520 Marine Bank Building
ROCHESTER, N. Y. 133 Andrews Street

190

WHITAKER-GLESSNER COMPANY

LARGE PRODUCERS & MANUFACTURERS OF
STEEL & STEEL PRODUCTS

General and Executive Office
Wheeling, W. Va., U.S.A.

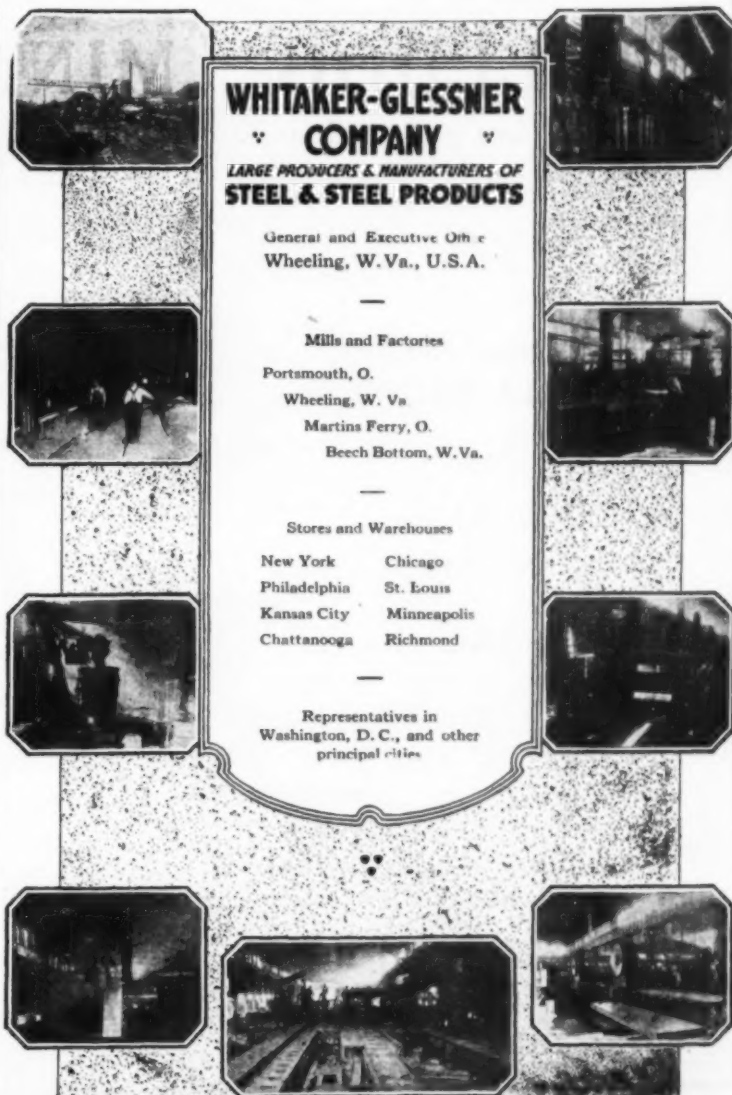
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Penn Seaboard Steel Corporation

FRANKLIN BANK BUILDING

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STEEL PLATE

Also Steel Castings, Stockless Anchors and Steel Ingots

Penn Works, Chester, Pa.

Works Baldt Works, New Castle, Del.

New Haven Works, New Haven, Conn.

"BULLDOG" MINING DRILL STEEL

There are various brands of Mining and Rock Drill Steel, but there is only one
"BULLDOG."

**"BULLDOG" STEEL
HOLDS ALL RECORDS**

**EFFICIENT
ENDURING
ECONOMICAL**

**Prompt Deliveries
from Stock**



HOLLOW and SOLID.

**In ROUND, HEXAGON,
OCTAGON, QUARTER
OCTAGON and CRUCI-
FORM.**

**If you want the Best
It is "BULLDOG"**

MADE-UP STEELS in all standard sizes a Specialty. Lengths Shanked. Collared and Bitted from 12" to 12'. Send for our prices.

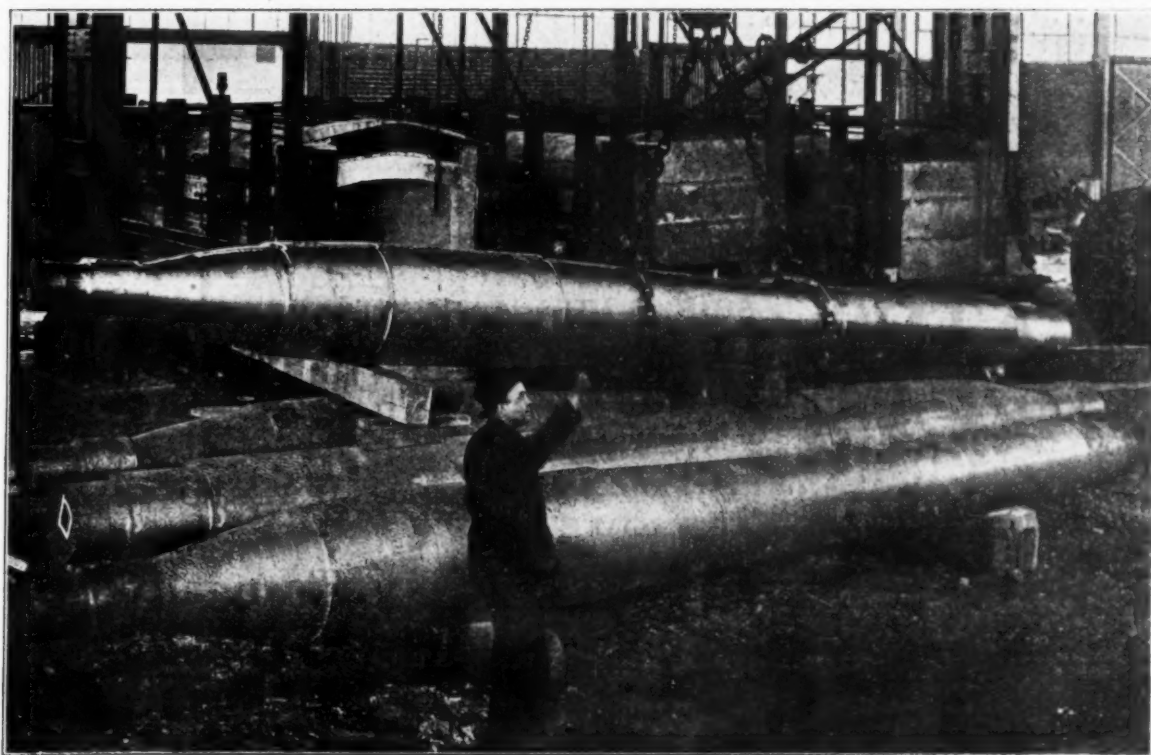
Made Only by the

INTERNATIONAL HIGH SPEED STEEL COMPANY

Works: ROCKAWAY, N. J.

99 Nassau Street, NEW YORK

CAMDEN



You are THINKING

that you will know what forgings are embraced by the term

CAMDEN FORGINGS

I am thinking that each week the shops make some forging never before produced by them, and that its present **productive** facilities range from a plain round bar weighing 100 lbs. to a forging 80,000 pounds.

We are thinking that the next and logical procedure is to find our common meeting ground.

CAMDEN FORGE CO.

CAMDEN, N. J., U. S. A.

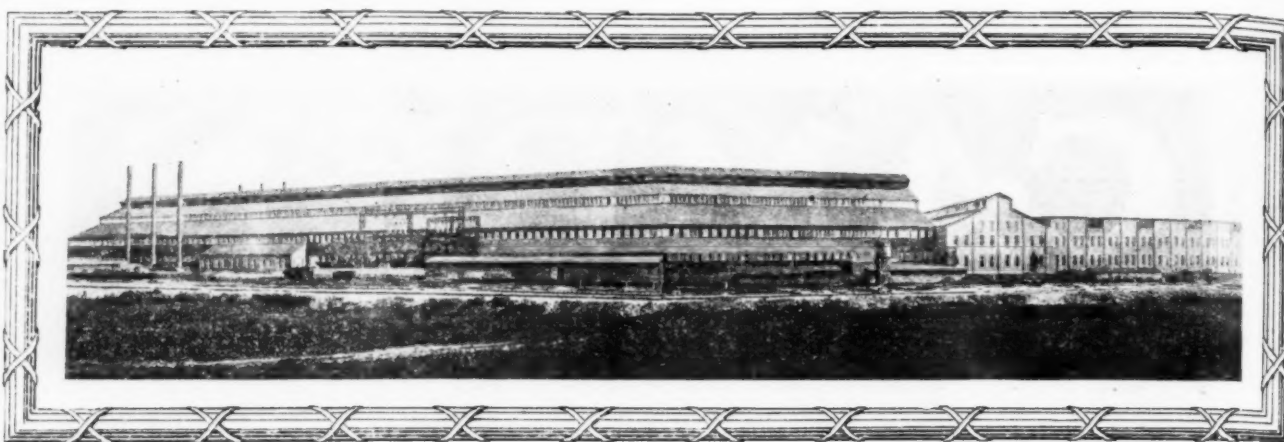


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COMPLETED NOVEMBER 15, 1918

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SHIP PLATES—TANK PLATES—BOILER PLATES
7-64 to 2" THICK—EXTREME WIDTH, 120 INCHES.

BLUE ANNEALED— $\frac{1}{4}$ " TO 16 GAUGE. BLACK—10 TO 30 GA.
GALVANIZED—10 TO 30 GAUGE.

SPECIAL FINISH SHEETS FOR PARTICULAR PURPOSES
ROLLED FROM BRIERHILL STEEL

THE BRIER HILL STEEL CO. Youngstown, Ohio

Jones & Laughlin Steel Company

General Offices:
Jones & Laughlin Building
PITTSBURGH

MANUFACTURERS OF
**VARIOUS
STEEL PRODUCTS**

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South Side Works	Keystone Works
Eliza Furnaces & Coke Ovens	Soho Works
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HAVEMEYER BARS

"Every Pound Pulls"

By Using

HAVEMEYER BAR SERVICE

YOU GET

IMMEDIATE SHIPMENT

OF YOUR REINFORCING STEEL

FROM OUR NEAREST WAREHOUSE

Birmingham warehouse carries the
largest stock of reinforcing bars in the
South—all sizes—rounds and squares.
Address Birmingham Office.

CONCRETE STEEL COMPANY
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FABRICATING SHOPS AND WAREHOUSES:				
CHICAGO	BIRMINGHAM	PHILADELPHIA	NEW YORK	BOSTON
AGENCIES AND STOCKS IN PRINCIPAL CITIES				

Types
Lack
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The follo
and sizes
sheet pile c
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Suitable i
specially con
dimensional an
of the pile s
is much sup
in sewer an

For light
work in cu
trenches, etc

Prefer
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straight co
timbers.

For cons
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flange acts
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means for
braces, etc.

Lackav
Steel

Best for
exposed to
The protec
adhesively
to the piling
perfect prot
and can be
steel. Water

Complete di
ries of any s

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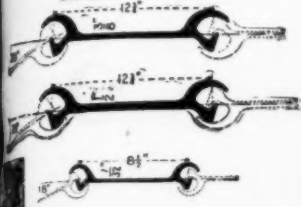
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The following sections offer types and sizes to economically meet any sheet pile construction problem:

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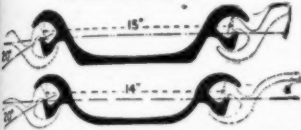
Suitable for general work and especially constructions requiring high tensional and compressive resistance of the pile section. The smallest size is much superior to wooden sheeting in sewer and trench work.

Plate Type



For light cofferdams, permanent work in cut-off walls, core walls, trenches, etc.

Arched-Web Type



Preferable where transverse strength of the pile is of primary importance, as in braced or tied constructions. A wall of this piling is very thin in proportion to its transverse strength, having no greater thickness over all at the centers of the arches than the over-all thickness of the interlocked joints. Flattening the back of the web furnishes a long, straight contact with the waling timbers.

Center-Flange Type



For constructions requiring high tensional and compressive strength, in connection with a fairly high transverse strength. The center-flange acts as a stiffener, increases the section modulus and furnishes means for attaching transverse ties, braces, etc.

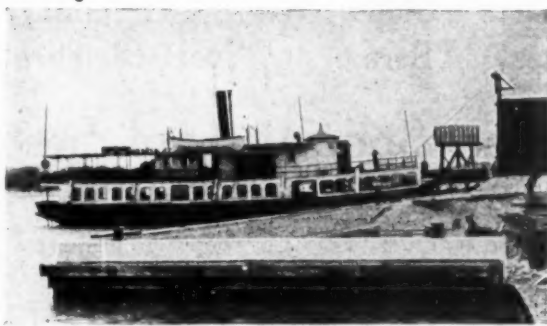
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The method of utilizing the Lackawanna 14-in. by 3/8-in. section in 23 and 26-foot lengths to retain the material in the rear of the dock wall is clearly shown in the cross-section and pictures.

It is interesting to note that with the exception of the mooring bollard, the design used here by the contractors, John Ver Mehr Engineering Co., is practically the same as that used by E. L. Cousins, Engineer of the Toronto Harbor Commission, for the dock walls built some years ago on the Don River Diversion. The adoption of this design by a second department of the City of Toronto after several years of observation of performance of earlier installations would seem to indicate the entire suitability of Lackawanna Steel Sheet Piling for this work.

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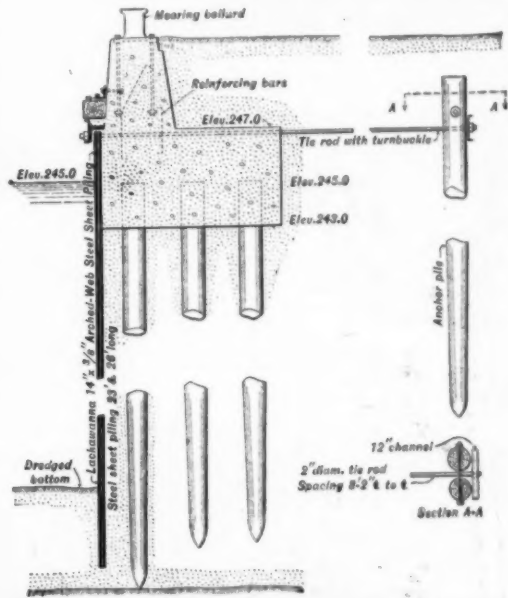
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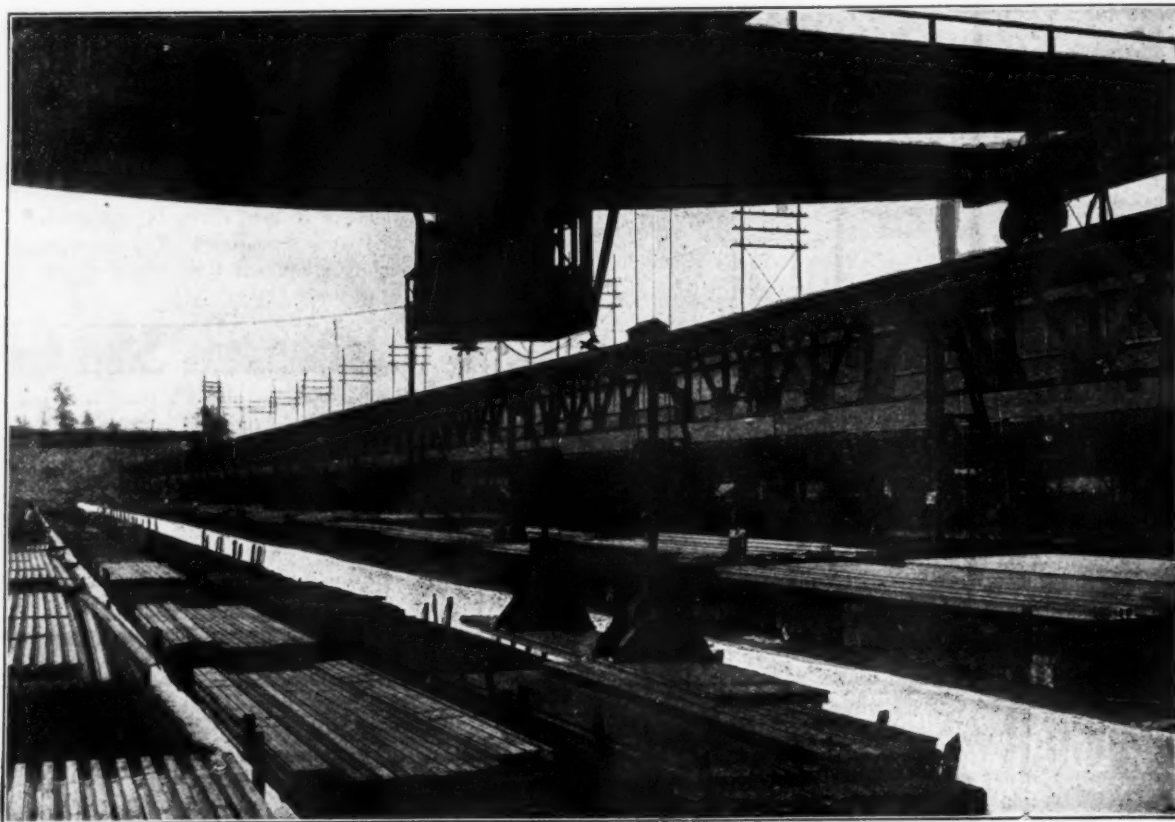
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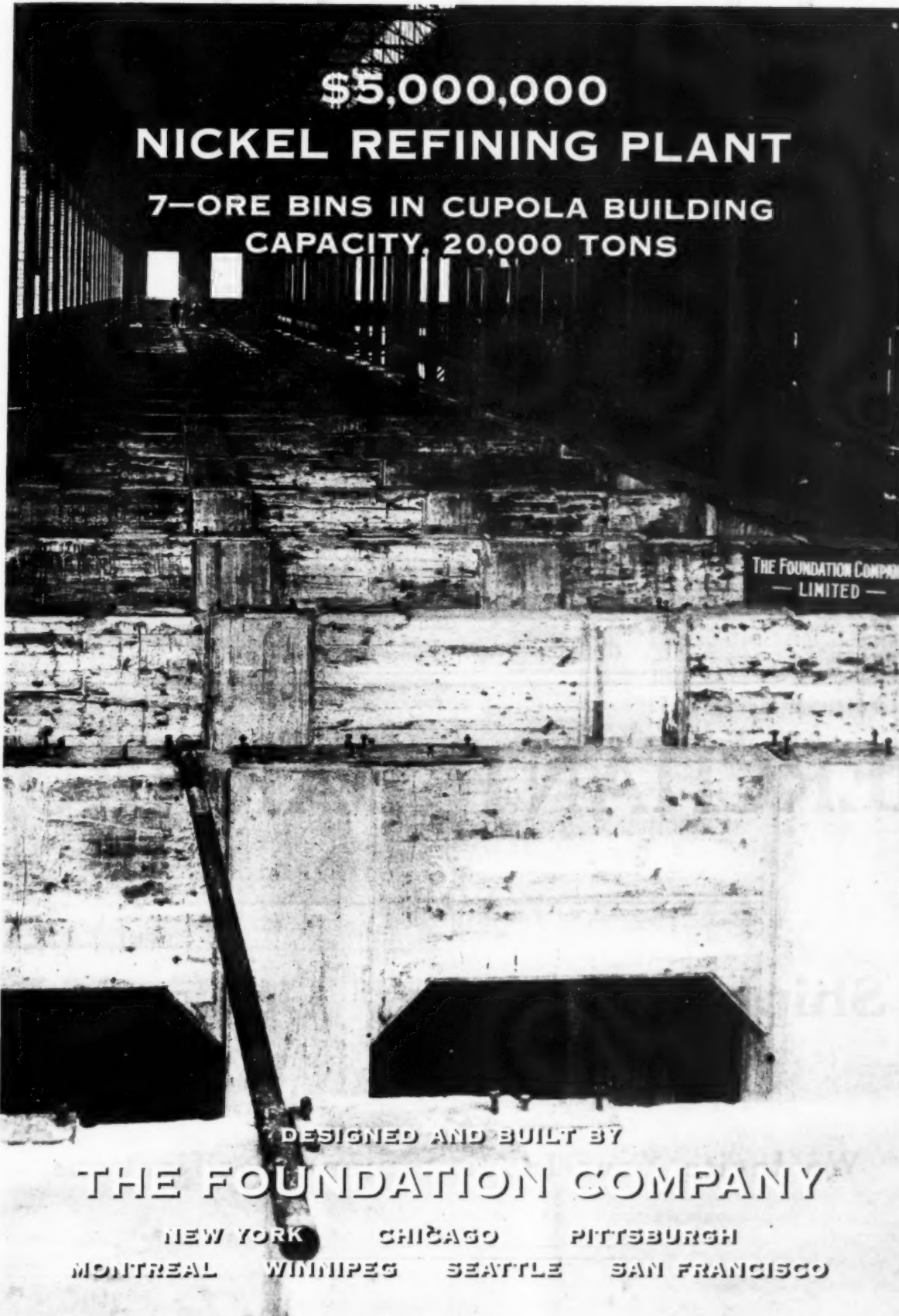
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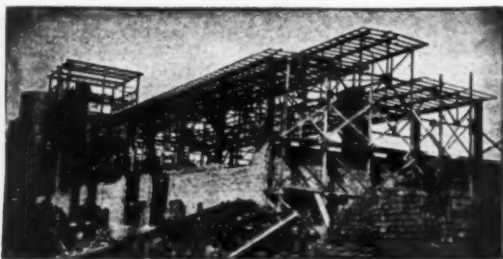
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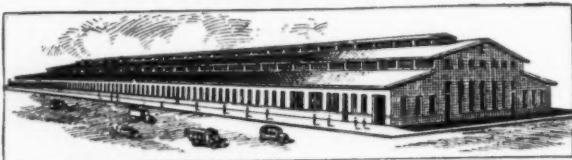
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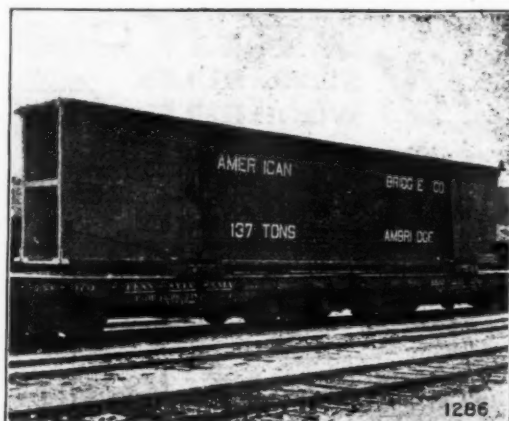
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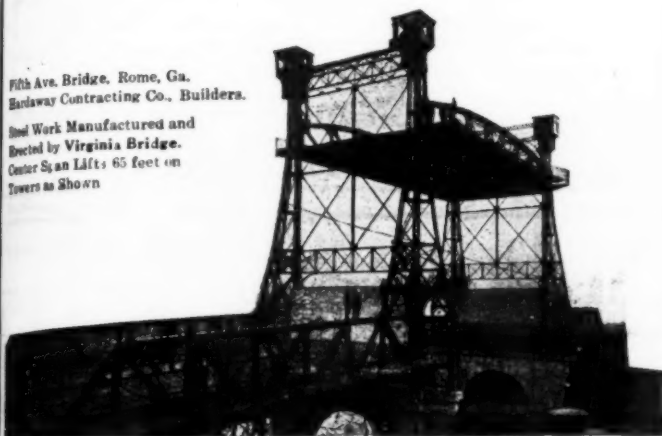
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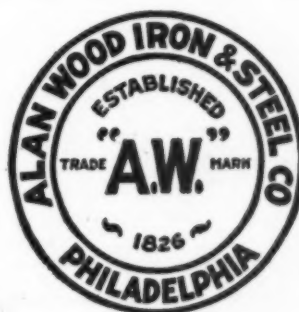
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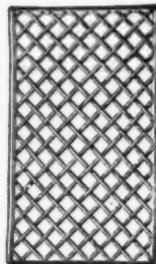
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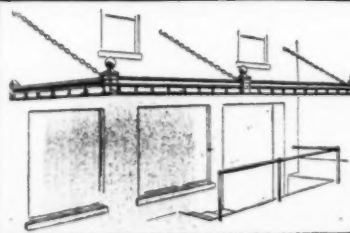
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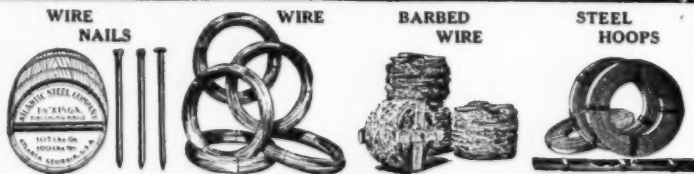
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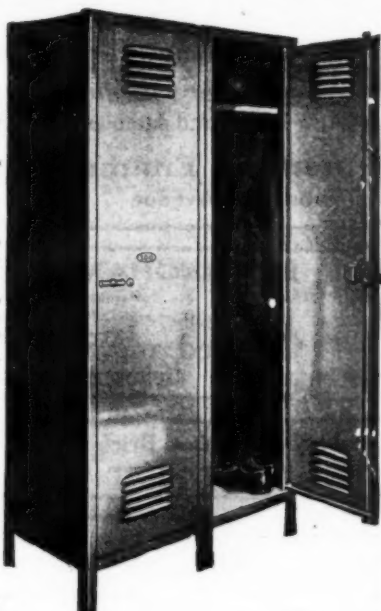
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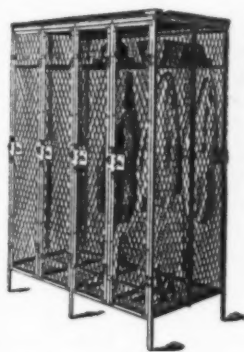
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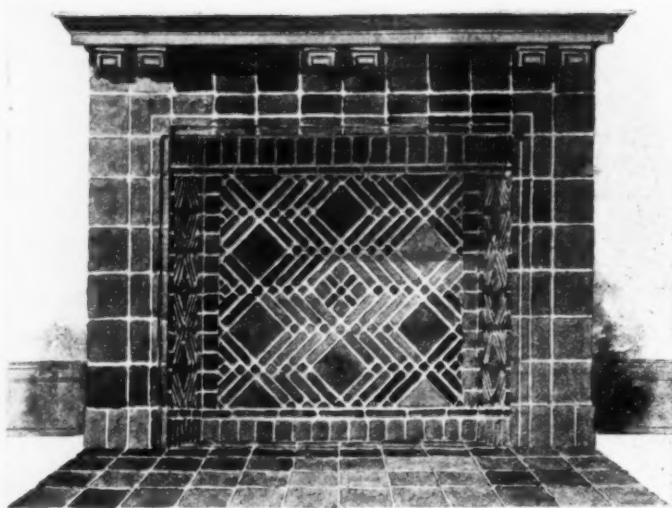
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The way to be sure is to use the dependable Starrett Tools—known the world over as standard precision instruments.

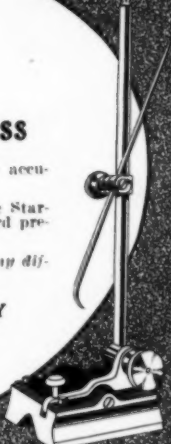
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This protection mark  appears on a wide variety of sheet and tin mill products. It assures buyer and user the utmost in sheet steel quality.



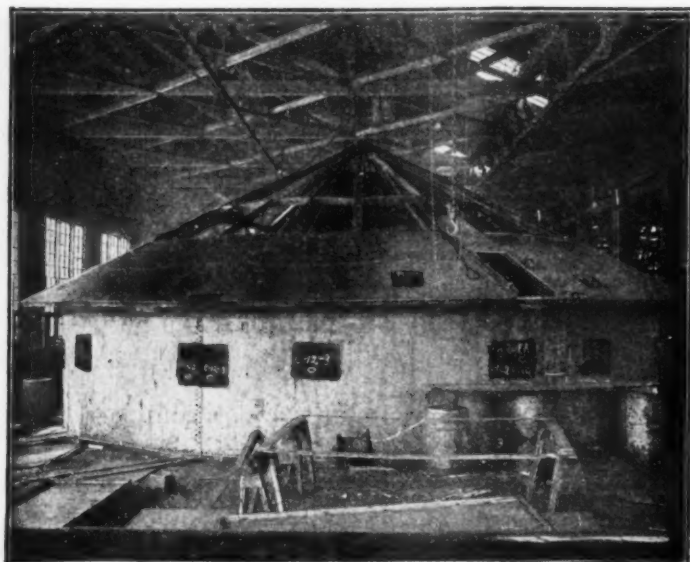
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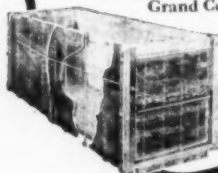
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Grand Central Palace, New York, N. Y.

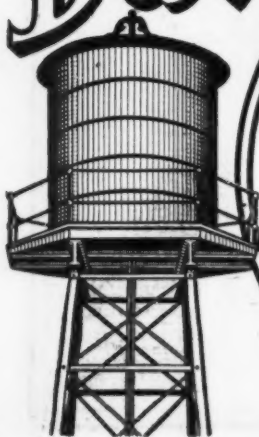
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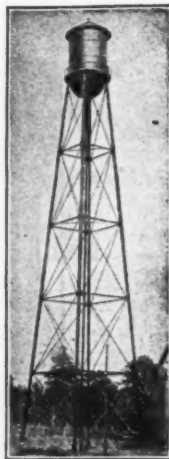


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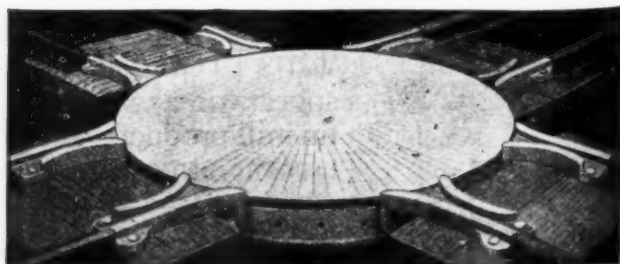
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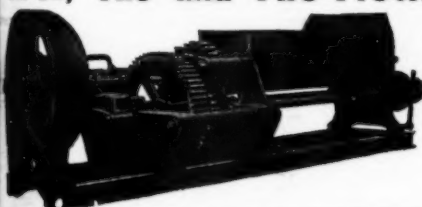
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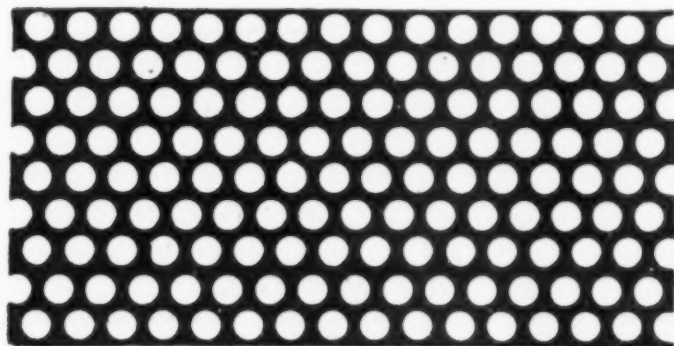
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**Here is Perforated Metal
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There is quality workmanship in every inch of it

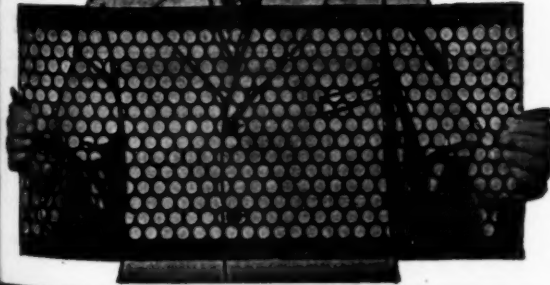
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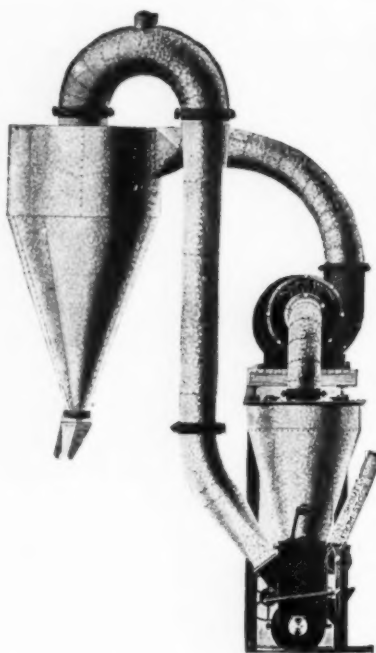
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Air-Separation is more economical than screens for producing fine materials, and by applying it direct to the pulverizing mill you obtain the added advantage of a complete unit which takes one-inch material, and delivers a finished, powdered material to storage.

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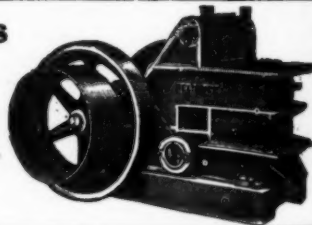
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Soap Powder All Drug Material
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They run at slow speed.

They're dustless.

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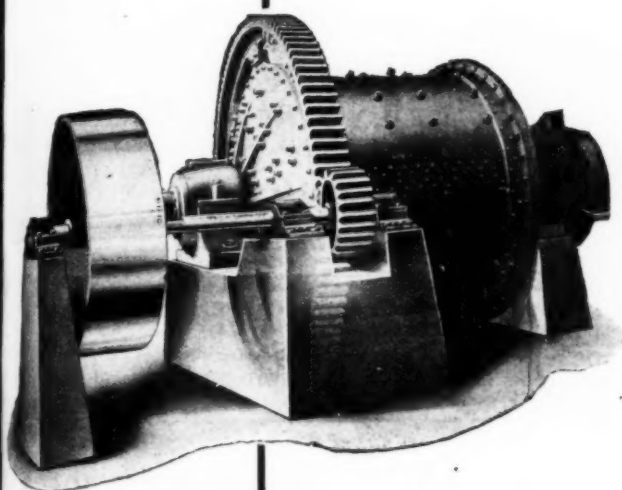
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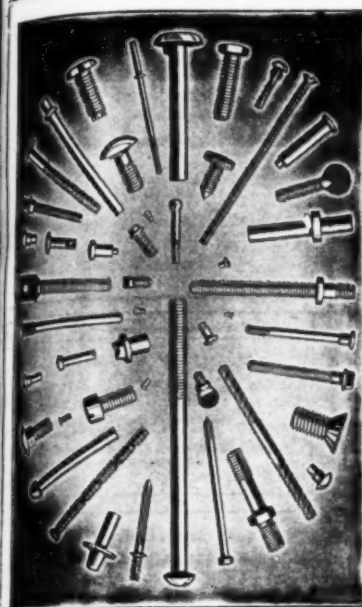


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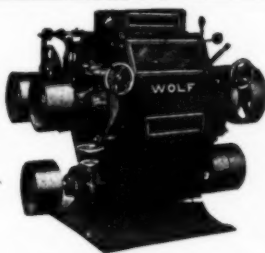
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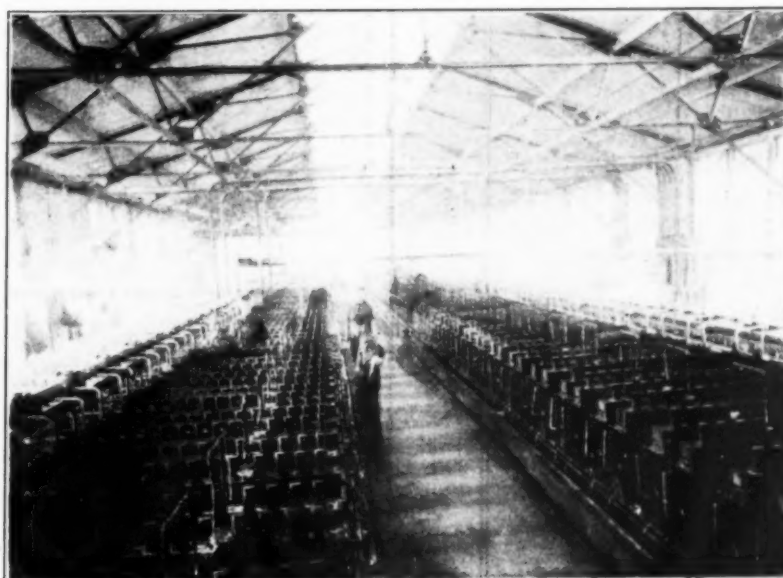
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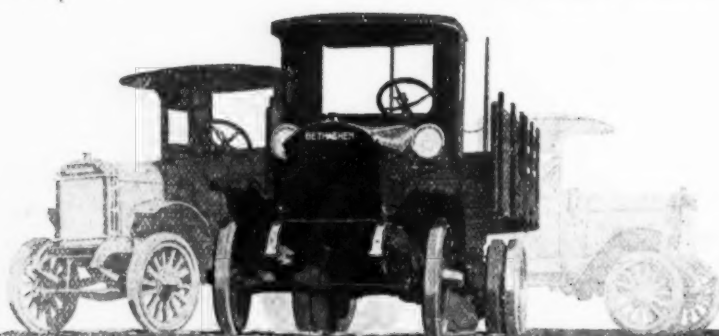
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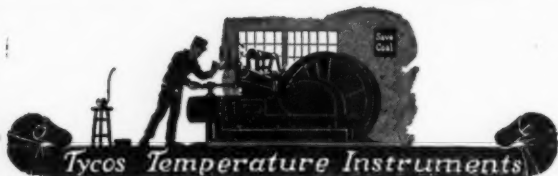
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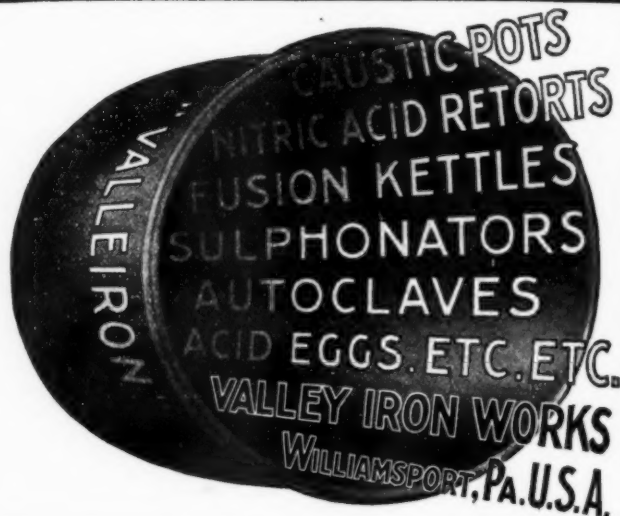
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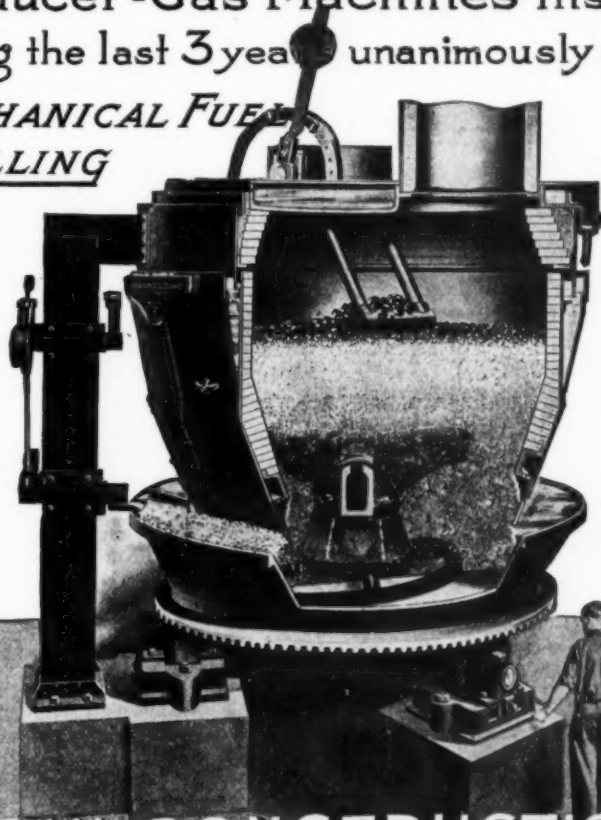


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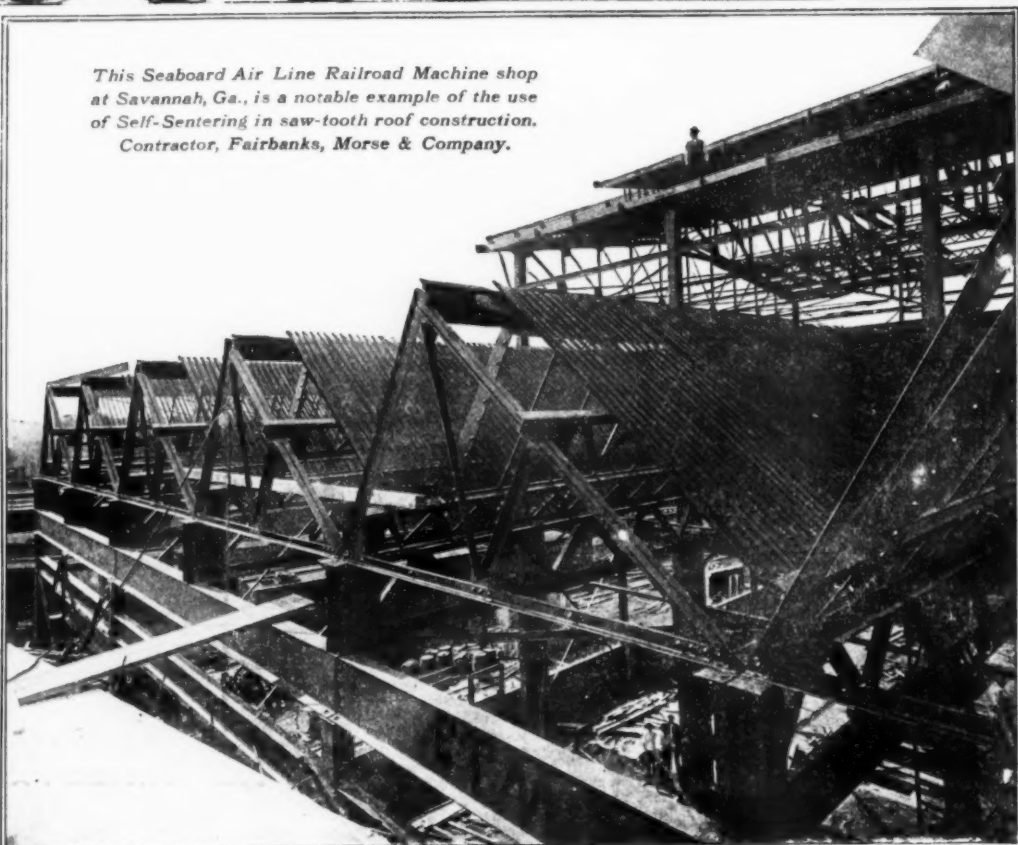
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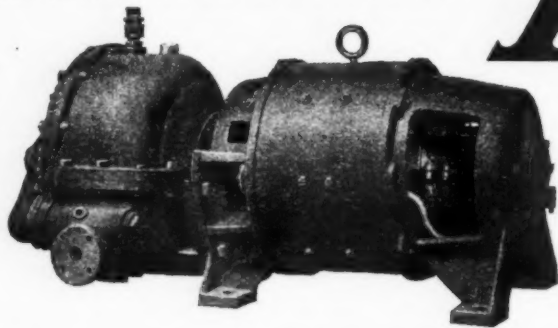
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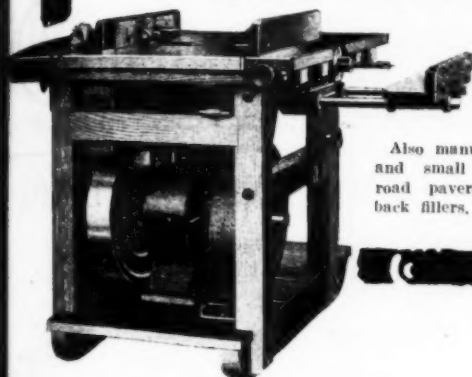
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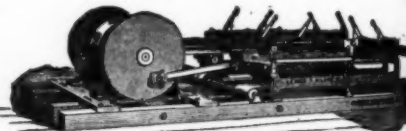


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THE DAY FOR OPTIMISM.

WHILE at war the chief business of this country was to win the war. Nothing else counted so long as Germany was unbeaten. Now our chief business is to rebuild, reconstruct, develop, and in a spirit of boundless optimism go forward with our great task and our wonderful opportunity.

FOR THE APOSTLES OF "NO HUMILIATION."

Certain people have proclaimed their opinion that the nation ought not to be humiliated.)

By SIR OWEN SEAMAN, Editor of London Punch.

Memories arrive as thick as swarming bees;
Our evening rags announce with raucous clamor
The latest wire, the semi-final wheeze
Transmitted by the fertile Rotterdammer,
Giving a local version
Of William Two's spontaneous dispersion.

They leave me cold. I care not how he pays
The heavy debt his deeds of wanton fury owe—
Whether he puts his orb to bed, or stays
The exhibition like an antique curio;
The reckoning we charge
Must be settled by the Hun at large.

Here and elsewhere his advocates impute
Innocence to the Boche—a gentle creature,
The prone, perhaps, to lick the tyrant's boot,
But otherwise without a vicious feature;
They'd have our wrath abated;
One child, "he must not be humiliated."

Why not? Against his army's bestial crimes
He never lifted one protesting finger;
The wrongs of Belgium drew his jocund rimes;
Over the Hymn of Hate he loved to linger,
Pressing the forte pedal,
And wore—for luck—the Lusitania medal.

He took a holiday for children slain,
And butchered women set his flags aflutter;
Our drowning anguish served for light refrain
To beery patriots homing down the gutter;
To prisoners he spat,
The helpless ones, and thanked his Gott for that.

Had he but fought as decent nations fight,
Clean-handed, then we must have spared his honor;
But now, if Germany goes down in night,
Tis he, not we, that puts that shame upon her,
Shame not of mere defeat,
But such that never our hands again can meet.

Why should his pride of race be spared a fall?
Let him go humble all his days for sentence.
Why pity him as just a Kaiser's thrall,
This beast at heart!—tho' fear may fake repentance?
For me, when all is said,
I have my pity for our murdered dead.

In Advocating Punishment for Germany President Wilson Strengthens Moral Forces of the World.

WHEN President Wilson sailed for France, the MANUFACTURERS RECORD said:

"The real heart of this country is for a peace based on the adequate punishment of Germany. If to this task President Wilson will give his undivided and tremendous energy, if he will recognize that the criminal must be punished, and that the only righteous peace that the world can have is based on punishment for the crime committed, then his going might be of tremendous value."

"What a tremendous influence for good, what a marvelous power to awaken the moral sentiment of the whole civilized world, would be a ringing statement from President Wilson that, based on the personal investigation of the crimes of Germany as seen in France and Belgium, he consecrated every power of his being into joining hands with our Allies in making it absolutely impossible that Germany could ever again wreak such fearful crimes upon the world!"

President Wilson has now done what we expressed the hope that he would do.

When, in his address in reply to President Poincare, President Wilson expressed his full appreciation of the horrors of the war and the terror and spoliation made by Germany, and indicated his belief that men guilty of such crimes should be so punished that no one else would ever again venture to commit such crimes without knowing of the certainty of just punishment, he gave heart to all of the moral forces of the world which recognize that punishment of Germany and the criminal leaders of Germany must be the first essential of impartial justice, for without adequate punishment there can be no justice.

President Poincare, in his address of welcome, had strikingly told the story of how France had endured and suffered during the four years, how she had bled at every vein, how she had lost the best of her children, and that while she yearns for peace she realizes that all of the sacrifices would be in vain if the criminals should go unpunished or that they might again lift their heads to make ready for new crimes.

It was in reply to this superb address of President Poincare that President Wilson voiced more strongly than he had previously done, we believe, his view that the terror and spoliation committed by Germany required punishment of the criminals.

We wish that President Wilson's statement might have been even stronger, but we feel sure that when he views for himself the ruin wrought by the armies of Germany and Austria he will, as he said in his speech, "regard the atrocities of Germany with the same repulsion and deep indignation that they stir in the hearts of France and Belgium."

When President Wilson sees for himself the awful ruin in France and Belgium; when he comes in contact with those who can speak with personal experience of the vilest crimes of dishonored womanhood and of mangled childhood; when he sees the ruthless destruction of towns and cities and churches and cathedrals, we believe he will speak with a "deep

indignation" which will fully match that of President Poincare, and that in doing so he will still further strengthen the forces of the whole world united in behalf of justice against the greatest criminals in human history.

To believe anything else of President Wilson would be to believe that he is less than human, for no man can possibly stand before the ruined temples and the cities over which the accursed army of Germany marched, no man can hear the tales of suffering which the people have endured, without having every moral fiber of his being stirred to its utmost. If through the visit that President Wilson is now making the public can become absolutely assured that those who tried to create the impression that he was seeking to bring about a "pleasing peace" or a "peace without humiliation to Germany" were speaking without his authority, his visit may be made the means of accomplishing great things.

President Wilson, by those who have been accounted as his mouthpiece, has been charged with believing in a "pleasing peace," in a "peace without humiliation to Germany." These sentiments have been voiced through the New York Times, the New York Evening Post and other papers which have been for years regarded as the strongest upholders of the Administration. If they have wrongly interpreted President Wilson's views, they have done him an irreparable injury. If, perchance, they did represent views which he once held, we feel certain that when he stands on the wreck and ruin of the destroyed cities, when he hears in person the story of the dishonored womanhood and the awful carnage of Germany, he will stand alongside of Lloyd George and of President Poincare and of all who believe that justice demands the fullest punishment of criminals, and that with them he will unite in demanding that Germany shall be made to pay the full penalty of its crimes, and that the men who led in German atrocities shall with their lives pay for the awful ruin which they have wrought.

To believe less than this of President Wilson would be to make of him a man without moral stamina and backbone. Therefore, we rejoice in the vigor of his statement in reply to President Poincare's demand for punishment, in the course of which he expressed the thought that his repulsion and deep indignation would match that in the hearts of the men of France and of Belgium, and that he appreciates as they do the necessity of the just punishment of such crimes. If the punishment to be inflicted is a just punishment, then it will be a punishment unto death of the criminals and a punishment of the German nation which for 50 or 100 years to come would tax its utmost power to atone for its fearful crimes by the payment of the entire cost of the war to the Allies. Anything less than this would not be justice, but would be a weak and pusillanimous yielding to neurotic sentiment for criminals.

This nation can well rejoice in the bold outspoken words of President Wilson, which give assurance

that in the peace conference and in all the activities which will precede it the President of the United States will be an outspoken advocate for adequate punishment. The MANUFACTURERS RECORD has constantly expressed the hope that this would be the position taken by Mr. Wilson, and two weeks ago it said that if he would do this upon his arrival in Europe he would strengthen the moral forces of the whole world. He has already done it.

DEPORTATION OF ENEMY ALIENS ADVOCATED.

OPINION concerning the disposition to be made of interned enemy aliens seems tending toward deportation as the best means of putting them where they may never again be a menace to this country or to its Allies. At a recent meeting of the Rotary Club of New Orleans a preamble and resolution on the subject were adopted advocating their deportation as soon as their internment is ended, upon the ground that their continued presence in the United States as free individuals would be not only menacing politically, but harmful and objectionable in other ways because of their actions both before and since we entered the war. The resolution was drafted by Frank Bethune, a director of the Rotary Club, according to an article in the New Orleans Item, which quotes him as saying:

"This is the time when the United States is cleaning house, and it is time to sweep out all enemy aliens who have shown by words or deeds that they are not in sympathy with the United States. I believe that every German interned in the United States should be deported as soon as released from confinement. They are out of sympathy with the Government; they are not good citizens; they are not people with whom Americans care to associate. Keeping these enemies here is an injustice to citizens and to prospective citizens of this country."

The resolution with its preamble was presented for the consideration of the club about three weeks previously, after which it was revised and accepted. It is as follows:

Whereas, the United States Government has found it necessary to intern and otherwise punish certain persons because of their treasonable utterances or violent acts directed against the Government of the United States or the governments with which it is associated in the war against Germany and her allies, and

Whereas, the releasing of such persons after the war or after their term of punishment has been completed, and allowing them to live among us would be a continuous danger to our Government and to our citizens, therefore be it

Resolved, that this body goes on record as desiring the deportation of such persons when their term of punishment shall have been fulfilled, and suggests that they be deported to Germany and forever be forbidden entrance to the United States or to any of her possessions.

Copies of the resolution as adopted were sent to the International Rotary Club to be distributed to all the clubs in the United States, England, Scotland, Cuba, Guatemala and Canada. The club at New Orleans has asked the other Rotary Clubs in this country to also vote on the resolution and to urge Congress to give the subject immediate attention.

Oliver H. Van Horn, president, and Don R. Messtayer, secretary of the New Orleans Rotary Club, expressed themselves as to the resolution in terms as positive as those used by Mr. Bethune, the author of the resolution; and at Shreveport, La., Frederick Warde, the actor, at a Rotary Club luncheon, according to a dispatch from there, referred to the action taken at New Orleans and strongly urged the deportation of all German aliens, saying that while such action might be severe, it was justifiable under the circumstances, there being no room in this country for any person in sympathy with Germany or the Kaiser autocracy.

In a letter to the MANUFACTURERS RECORD C. M. Kellogg of the United Forestry Co., 101 Park avenue, New York, says:

"It is a little hard to judge just what is best to do with this class of our citizens, and I think that many feel as strongly regarding the deportation as the Rotary Club of New Orleans. Unless there is some way to change the consciousness of these aliens it will be impossible to make good citizens of them."

"Germany has grown such a world lust for dominion that I can see no way out during the next two or three generations. This is so evident, now that the war is over, as shown by their attitude toward the result of

their defeat, and their ideas of what is due to them from the Allies."

John J. Earle of the Landeck Lumber Co., Tampa, Fla., also writes the MANUFACTURERS RECORD:

"Referring to several articles in your issue of December 5 regarding interned enemy aliens: I, as well as many others, presumed that a number of these would be deported as undesirable citizens the same as any enemy aliens, at one of our ports."

"Of course, the spies should be executed, following the German custom. In the case of traitors — they should be hung, as customary."

"It certainly would be unwise, in my estimation, to allow an asylum in the United States for the interned enemy aliens."

The adoption of this resolution at New Orleans also suggests that our immigration officials should be more than ever vigilant to exclude from this country all aliens of objectionable character or affiliations, and that our immigration laws should be made more strict in order to cover up any loopholes which may now exist for enemies of our country to creep through.

IMPORTANT ECONOMIC MOVEMENT WHICH OUR LEADERS SHOULD STUDY.

THERE is much food for thought, careful consideration and study on the part of the United States Government in a notable memorial presented last week to the Canadian Government on behalf of the Canadian Manufacturers' Association, the organized labor of the Dominion of Canada and a joint committee on technical relations by whom it was signed, being the result of a conference recently held between representatives of both labor and capital. The movement aims to secure the establishment of a Government bureau on public welfare for the general betterment of living conditions in the whole country, and also for the advancement and control of emigration, encouragement of technical education, land settlement, etc. The memorial was presented by G. M. Murray, general secretary of the Canadian Manufacturers' Association, and S. Willis MacLachlan of the technical organizations. The principal requests made of the Government were as follows:

That the Government be requested to establish immediately a bureau of public welfare to deal with such matters as sanitation, town planning, housing plans, and every other matter pertaining to the physical efficiency of the nation. Owing to the present dearth of suitable homes for workingmen, this particular subject should receive the bureau's first consideration. Much could be accomplished through the co-ordination of the many agencies, private, philanthropic and governmental, dealing with these matters. Having regard to the important part which research must necessarily play in Canada's industrial reconstruction, the appropriation for that purpose should be increased to not less than \$1,000,000 annually. The board handling that work should not be merely advisory as at present, but should be clothed with specific executive powers, which powers should preferably be exercised by a board of managers, upon which labor, manufacturers and engineers would all have representation.

That the establishment of a central empire authority of emigration be approved of for supplying information to parties intending to emigrate, as to conditions in the countries to which they desire to so emigrate, and that the established Emigration Department in Canada give serious consideration to the question of further restricting undesirable emigration.

That the advancement of technical education is of such vital concern to the whole country that the burden should not be left entirely to the municipalities and provinces. The Dominion Government should co-operate by such means as are best calculated to assist the authorities and expand the facilities for this work. It is urged, whatever plan be adopted, that there be kept constantly in mind the necessity of working it out on lines that will bring technical education within easy reach of all classes.

That a practical land settlement plan be worked out at once, and in connection with the same the Publicity Department should start a campaign to interest our soldiers in the advantages of farming.

That the Publicity Department of the Government start at once an optimism campaign, and that the press of the country be requested to co-operate.

Other matters urged upon the attention of the Government were those connected with public works, a survey of imports, a general policy relating to all raw materials, etc.

In view of existing conditions, the great demand for labor of all kinds, and especially skilled men and women in every line of industry, the need for their proper housing in proximity to their work, and the necessity of providing means to raise up a new generation of workers to succeed them in the gen-

eral work of the country as well as the need of preparation to meet the contingencies of the reconstruction period now begun, this Canadian memorial awakens thoughts which our ablest men should develop to the advantage of our own land and its inhabitants.

Following the war the great problems of a gradual discontinuance of manufacture of war material and a resumption of the manufacture of other materials for lack of which we have suffered in order to make war are confronting us, accompanied by emphasis upon the imperative necessity of training our young men systematically to take a larger and more effective part in the practical affairs of the world than they have done heretofore. If a spirit is aroused and a policy established along the lines suggested by this memorial, we may expect hereafter to see our young men generally better trained in every line of business, whether urban or rural in its nature, and everyone will exercise his or her efforts to better purpose than before. And if this country is to engage in foreign trade to a degree commensurate with its capacities, it must have generally better trained men than it has had in the past. The thoroughness with which European merchants and manufacturers have for long generations trained their men for foreign fields of business, while known to many of our people, has been entirely unknown to the great bulk of our population.

While our efficiency has been very high in certain lines of commerce and industry, in others it has been low and feeble. Hence the suggestions here presented are most reasonable and pertinent. Our public men of ability should at once study them deeply and take such action as the country requires to reap the greatest benefit in the fast approaching future of the busy years to follow after the war.

THE CRIMINALS MUST PAY THE PENALTY FOR THEIR CRIMES.

WHEN the MANUFACTURERS RECORD took the ground last summer that every dollar of bonded indebtedness issued by Germany and her allies for the prosecution of the war should be confiscated and applied toward the indemnity to be paid by Germany, or else that Germany should be compelled to repudiate these bonds, we were, so far as we can learn, in advance of everybody else in the world in making this definite proposition.

It was entirely new, but it promptly attracted attention here and in Europe. It has now been practically accepted by the British Government and Lloyd George in a speech last week, referring to the indemnities to be demanded by the Allies, said "they must come in front of the German war debt," which in effect is saying that the German war debt is valueless to its holders.

Lloyd George's statement of what will be demanded in the way of punishment of the criminals and full payment for all war in money to the Allies is so directly in line with what the MANUFACTURERS RECORD has been insisting upon for two years or more that we are especially gratified to see our position so fully sustained by England and France. In an address last week Mr. Lloyd George laid down the following as cabled to American papers:

"First—As far as justice is concerned, we have an absolute right to demand the whole cost of the war from Germany."

"Second—We propose to demand the whole cost of the war from Germany."

"Third—When you come to the exacting of it, we must exact in such a way that it does not do more harm to the country that receives it than the country that is paying it."

"Fourth—The committee appointed by the British cabinet believes that that can be done."

"Fifth—The Allies are in exactly the same boat. We shall put in our demands all together, and whatever they are, they must come in front of the German war debt."

"The first consideration in the minds of the Allies will be the interests of the people upon whom the Germans have made war and not in the interests of the German people who have made war and have been guilty of that crime."

"There is absolutely no doubt that Emperor Wilhelm has committed a crime against international right, and there is absolutely no doubt that he ought to be held responsible for it so far as the European Allies are concerned."

The Premier said he hoped that America would take the same view when President Wilson arrived as to the demand that would be put forward on the part of the European Allies, "to make the Kaiser and his accomplices responsible for this terrible crime."

An Open Letter to Secretary Lane.

Franklin K. Lane,
Secretary of the Interior,
Washington, D. C.

Dear Mr. Secretary:

For four years patriotic men, backed by the urgent commendation of the Federal Government, have been vigorously at work seeking to create a potash industry which would make this nation independent of the German potash monopoly. During the entire of its potash industry that it could make terms based on its potash monopoly, for it is a spirit in which countries should agriculturally prosper, according to its decision as to which countries would be permitted to have its potash.

Last summer I submitted the entire matter in a letter to President Wilson, and pointed out that it was entirely feasible to produce a potash supply fully adequate to our needs and make us wholly independent of German potash. President Wilson sent a letter to Mr. Baruch, and Mr. Baruch phoned me that it had made so deep an impression upon the Administration that he had been authorized to proceed as rapidly as possible and help in the creation of a potash industry. To this task Mr. Baruch whole-souledly committed himself, not only in conversation, but in correspondence which was published at the time.

The War Minerals Act was passed, largely for the purpose of enabling the Government to aid in the development of potash and other mineral interests essential to the nation's life. The carrying out of the details of this act was turned over, on the advice of the War Industries Board, to the Department of the Interior, and, therefore, the responsibility for success or failure was thrown upon you and your associates.

I know that you have had deeply at heart the utilization of the great potentialities of this country for the development of potash, but during the entire campaign I have been constantly told that tremendous efforts were being made by pro-German interests to prevent the carrying out of the plans for which the War Minerals Act was definitely passed. In one form or another pro-German interests have sought at times to create the impression that there was no great need of potash. At other times they sought to discourage the investment of money in potash-producing plants on the ground that it would be impossible to compete with German potash. Again, they have taken the ground that if potash should be restored to France we could get potash from that country.

It is a well-known fact that at least one of the largest fertilizer companies in the country had heavy investments in German potash mines prior to the war, and other fertilizer interests were, I believe, more or less intimately identified with the German potash industry. Instead of taking an active part in the development of the potash industry, I believe that only a few fertilizer men of the country have taken any part in creating a local potash industry; but, on the contrary, some of these companies, contrary to all their teachings in the past, seem to have sought to create the impression that there was no such need for potash as had been indicated.

The land is hungry for potash. We cannot increase our foodstuffs to meet the

world's increasing needs without a larger supply of potash.

The world's requirements for cotton will far exceed the crops which we are now producing, but we cannot largely increase our cotton crop without more potash.

Stimulated by the necessities of this situation and by the Government's urgent commendation, a number of enterprising concerns undertook the development of potash. Capitalists, believing that the Government was acting in good faith, began the development of potash in Nebraska, and today they have a large amount in stock for which there is no demand. Cement plants established by-product potash plants and have been producing a considerable amount of potash, but within the last week I have received a number of letters from these concerns stating that they cannot sell the potash which they now have on hand and that their potash by-product plants must therefore close because the fertilizer people refuse to buy potash.

That there is a need for potash is unquestioned. That the fertilizer manufacturers are refusing to buy potash is a fact. The inference is inescapable that these fertilizer concerns are holding off for the purpose of turning to the German potash industry for their supplies and bringing again into active life their identification with German potash.

This spirit lacks patriotism to a degree which it is difficult to find words to characterize. The fertilizer industry is one of the great interests of the country that should be thoroughly loyal and patriotic to the core. It comes in touch with the agricultural life of the country. It is dependent for its very existence upon the co-operation of farmers and bankers, and yet this industry today, to some extent at least, if not wholly, is refusing to buy American potash, though potash is badly needed. Apparently some of these people care not that for four years the vilest criminals in the world's history have sought to murder and to rob and to loot the world. Apparently they care not that that nation of criminals has been at war with the United States, that it has murdered our people, sunk our ships, sought to embroil us in war with Mexico and Japan, and did all that was possible to destroy our country. That such an industry would once more eagerly stretch forth its hand to clasp the blood-dripping hands of Germany and seek to depend upon German potash, and in doing so to destroy the American potash industry, is a piece of commercial piracy which matches the ruthless methods of Germany itself in commerce and in war.

It rests very largely upon you as to whether this attempt to destroy an American industry by Germany and its Allies shall be successful or not. We have been warned through the years of warfare that Germany's frightfulness in war was only in keeping with Germany's methods of wrecking and ruining the business of other countries in order to benefit its own interests.

Germany's warfare of murder and rapine was a warfare for commerce. Its crimes, which have blackened the pages of history as never before, are crimes committed definitely for national and personal aggrandizement through commerce.

Germany has already entered upon its campaign for destroying business interests in America. It is already beginning to flood our market with its medicines and other products, hoping to break down the industries of this country, and if any leading American concerns, such as the fertilizer people, are so lost to all sense of honor, so bereft of all sense of patriotism, so ready to align themselves alongside of a

nation of murderers and outragers and thus become participators in and apologists for their crimes, then surely the time has come for the people of this country to give voice to their determination that Germany shall not win by such commercial methods the victory which it lost on the battlefield.

Every ton of German potash that comes into this market will be stained with the blood of innocent women and children. Every fertilizer company which mixes this potash will stain the souls of its people with blood-guiltiness, and yet American-made potash, developed on the urgent advice of the Federal Government and in a broad spirit of patriotism, can at present find no buyers among the fertilizer people.

There is only one inference that can possibly be drawn.

Notwithstanding this situation, it is within your power to stand by the newly-created potash industry, for Congress has given you the power and the money necessary for this purpose. If the Government should at this time fail to uphold the potash industry, it would, I believe, be a very grave and great betrayal of a trust of tremendous importance to the nation and would cause people everywhere to believe that the National Government could not be depended upon to stand by its own work or its own promises. Moreover, a failure to uphold and to develop the potash industry as against the machinations of those who today are trying to restore to full power the German potash monopoly would be to betray America and civilization to a nation of criminals who for four years have sought to destroy America and our Allies.

Even today a dispatch from Berlin tells of some of the plans which the German Government is making to develop its airplane service in order to be prepared for the next war. In the light of what Germany has done during the centuries and what we may fully expect in the future, if it is within the power of Germany to bring on another war, if we should fail to develop our potash, manganese and chrome and other minerals in order to make ourselves independent in war as well as in peace, we would have no right to hope for safety and success in any future war. If in the light of the last four years we should prove to be so short-sighted and so narrow in our vision as not to become thoroughly self-reliant and independent in the production of everything needed in war as well as in peace, so far as our resources make this possible, we would be recreant to our nation and to all civilization.

In your official position, upon whom rests the responsibility of the utilization of these resources, and bearing in mind that at the present moment the potash-producing interests of this country find that the fertilizer people have stopped buying potash, can you not issue a call which will awaken their patriotism—for surely it must be latent in every fertilizer manufacturer, even though today they are by their acts destroying this industry—and warn them against looking to Germany for potash? Can you not at the same time use the great power and responsibility placed upon your Department by the Congress and the President to uphold and upbuild the potash potentialities of America as against the potash monopoly of the accursed nation of criminals with whom we are still at war?

Very truly yours,

RICHARD H. EDMONDS.

P. S.—Since the foregoing was written the MANUFACTURERS RECORD has received the following letter from a New York correspondent:

"Referring to recent correspondence about the German Kali Works:

"I noticed Saturday night in posting some second-class mail a substantial package on top of the mail box which was too large to drop inside, bearing a poster

imprint of the German Kali Works and marked 'From Propaganda Department.' The package was marked as containing printed matter and was addressed to a man in one of the North Carolina counties whose title was 'Secretary and Treasurer of Local Union No. —, F. E., etc.' There were a lot of other initials after the F. E., such as usually designate the name of various unions. I do not know, but assumed that the F. E. stood for an organization of fertilizer employees, if there be such a thing.

"I did not have a pencil with me at the time, and could not make an exact copy of the whole address. There may be nothing at all significant or unusual in this, and, judging by the printed paster, 'Propaganda Department,' I assume that it is work that is being carried on regularly and probably with the full knowledge of the authorities. I thought, however, there might be something of passing interest to you in the incident."

The German kali syndicate, which is a part of the German potash propaganda, has, we have been informed, maintained an office in New York ever since the beginning of the war.

No wonder the American papers are being duped into printing much stuff in the interest of German potash without realizing how fully they are being played for suckers by the unscrupulous agents of the German potash interests.

If any fertilizer companies desire to announce that they will depend upon American potash and will not use German potash, we invite from them a statement to that effect for publication.

WE NEED TO BE ON OUR GUARD.

EVERY report that comes out of Russia lifts the curtain a little upon the blackest tragedy in human history. Murder runs riot; famine, gaunt and horrible, is sending millions in agony to the grave, and millions more will follow. There is neither law nor order, but only wild, insensate chaos of death and destruction which makes the world shudder. All of this fearful orgy of unbridled crime, far beyond the power of imagination to picture, is the direct outcome of the Bolshevik work of German agents, some of whom went direct from America to Russia, with the knowledge of our Government as to their sailing, but without any conception of the fearful work to which they were committed by their deal with Germany.

Today exactly the same element is at work in America under the direction of the German Government, whose spies are all over this country and whose activities have not been lessened by the camouflage overturning of the German Government. The same accursed power which Satan has sent forth upon the world through Germany is today aggressively striving to bring Bolshevistic rule, ruin and chaos in America.

We need to be on our guard and to make ourselves safe by being forewarned of the danger. That the danger is real admits of no question, for we have millions of unnaturalized foreigners who cannot read a word of English and who are easily duped by the agents of the German Bolshevistic propaganda.

THE MURDERERS AND LOOTERS MUST REPAY.

THE theory advanced by Secretary Daniels that we must not demand any indemnity from Germany would be false to the people of America if we should adopt it. We went to war to save ourselves from a band of murderers and robbers. At an enormous cost we and our Allies have conquered them. Their campaign of murder was long planned and carried out with fearful frightfulness. It would be the height of folly to say that through the years American people shall bear the enormous burden of taxation and let the scoundrels go free. So far as we are concerned, no form of altruism could possibly justify enslaving ourselves with taxes while the murderers make no recompense. It is true that our Allies should be repaid first, because they have borne the brunt of the struggle; but while repayment of losses to the Allies on account of Germany's crimes against them should constitute a first mortgage on all Germany's earning power for years to come, we should have a second mortgage that would be entirely safe and certain to be collected.

Away with every idea that we shall not demand punishment by indemnity for every life lost and every dollar spent!

HOW GERMANY VIEWS THE SITUATION.

THE MANUFACTURERS RECORD has often expressed the belief that the only way in which the German people would ever fully realize that their military power had been completely destroyed and beaten into the dust was for the Allied and American troops to march millions strong into Berlin and there in triumph float the flags of the conquerors over the palaces of the whole Potsdam gang.

We have said that unless this be done German schools would in five years be teaching, as the German Ambassador to Mexico said when the armistice was signed, that "Germany had given peace to the world," and in the near future Germany would prepare for another war. The following dispatches in the daily papers, reproduced exactly as they appeared in two which happen to be before us at the minute, are striking illustrations of the truth of our position:

[New York Tribune.]

German Populace Hails Retreating Army As Victors

"Glorious Achievements" Are Celebrated in Every Town and "Deutschland Uber Alles" Is Sung.

AMSTERDAM, Dec. 8.—The mental attitude evidently still widely prevalent in Germany, which persists in regarding the German army as unbeaten, or at least as "vanquished victors," as a popular paradoxical German designation has it, is exemplified in the farewell proclamation to the inhabitants of the Rhineland issued by General von Einem in evacuating the Rhine provinces. In this message, as quoted in a Coblenz dispatch to the "Dusseldorf Nachrichten," General von Einem said:

"You desired to see the victorious army which protected the Fatherland for four and one-half years against all its enemies. You wished to see for yourselves whether our strength was broken and whether we remained true sons of German sires.

"Proud, and We Thank You."

"The glorious reception given us, the display of flags and the greetings extended are the best evidence that you are satisfied with us and that we have not disappointed your expectations.

"We are proud of this, and we thank you. Although unfortunate circumstances brought the enemy into the land, he is not the victor in battle. Our hearts remain true to you, and you belong to us. Remain proud and German. Remember the good repute and honor of the Fatherland."

At Cologne and other places the departing troops, according to the local newspapers, have been given tremendous farewell receptions, at which their "glorious achievements" were recalled and "Deutschland uber Alles" sung. The soldiers were smothered with flowers and gifts, while the officers expressed to the people the hope that they would meet again soon.

[Raleigh News and Observer.]

GERMANY ALREADY WANTS EQUIPMENT FOR "NEXT WAR."

(By the Associated Press.)

Washington, Dec. 10.—Decision of airplane manufacturers in Germany to turn their plants to making furniture has led to a protest from officials of the German Government, according to advices reaching Washington today through official channels. The point was said to have been made that in order to be ready for the next war Germany must replace the airplanes which it is required to turn over to the associated nations under the armistice terms.

HIGHWAYS.

WHEN good highways stretch over every part of this country, covering as with a network every section, as must be done, what a marvelous nation of unequaled power and wealth this will be!

SOLDIERS WORKING IN INDUSTRIES SHOULD BE SPEEDILY RELEASED.

TO aid in establishing a basis for peace-time operation of the industries it is essential that thousands of soldiers and sailors engaged in purely civilian employment in the fulfillment of war-working programs be released with the least possible delay. Definite steps for demobilization of men in the various cantonments here and in units overseas have already been taken, and thousands of men are being returned to civilian life. But the plans for returning the army of uniformed men who have been detailed from active service to detached service in the industries and Governmental departments have not matured.

As a result, thousands of enlisted men are serving at an average salary of \$90 a month—most of them at \$30—in the civilian employ of the army. Careful investigation shows that it is practicable to replace these men, almost without exception, by civilians. Many of them have been so employed since the outbreak of the war, and have worked in many instances side by side with civilian employees who have, for one reason or another, been exempted from military service and who are paid salaries commensurate with the responsibilities and requirements of the position. Throughout the war the enlisted men have worked diligently and efficiently, with scarcely a complaint, but now that the armistice has been signed and fighting has ceased, the spirit of the men has changed. They are naturally chafing under the conditions that exist, and a growing tendency to carelessness and inefficiency in their work is the inevitable result, which already has been observed.

It has been announced that those men who can be assimilated into industrial life, and whose services are, in the opinion of the commanding officers, no longer required, may be discharged. Nearly a month ago data were compiled showing clearly that practically all of the enlisted personnel could be replaced by civilians, but no definite steps have been taken toward that end. Instead, the commanding officers have manifested a desire to hold the enlisted men until contracts now being fulfilled are completed. Much criticism of this plan has been voiced by the men. It is pointed out that the officers are reluctant to release dependable, efficient men because it will reduce the efficiency of the organization. Other officers are heartily against employment of civilians in these positions, since it will be impossible "to order them to work as it has been possible to order the enlisted men." Again, commanding officers endeavor to first release men whose services have been unsatisfactory and who are otherwise unsuited to the work to which they have been assigned.

As a substitute for this plan it is suggested that the men be released according as they may be assimilated in the industrial world. This would release immediately, or within as short a time as civilians could be secured and trained for the work, all men who have private businesses to which they may return and men whose peace-time employments have positions ready for them. This plan would make for an unstabilization of labor which would no doubt follow the enforcement of the present plans, which do not consider the individual's capacity for absorption into the peace-time industrial work.

Many of these men have sacrificed real opportunities that they might aid the Government in its work. Most of them are privates, but a small percentage have been made non-commissioned officers with salaries of from \$90 to \$125 a month. They hold positions as laborers, chauffeurs, inspectors, clerks and in other ways, having been chosen for this work because of their special education and training in the particular lines. Since the signing of the armistice the demand for men of this character has ceased, but those in service are still retained and are therefore unable to renew their civilian pursuits.

It is only justice to the men that they should be released to civil life in the shortest possible time. Definite steps towards replacing with civilians such men as are necessary should be taken at once.

NOW TO BUSINESS.

LET us be as busy with business as we were busy with war.

Five Years of Prosperity Predicted by Judge Gary

PREDICT that the next five years in this country will be the most progressive, prosperous and successful in its history. The results astonish even the most optimistic of today.

"There is no reason for fear or doubt by the men. The prospects are bright and the opportunities for success are greater than ever."

The General Committee has reached the conclusion there should be recommended to the War Industries Board a moderate reduction in the scale of maximum prices for our commodities, commencing January 1.

The necessary costs of living have been growing and until they are reduced it would seem that, on the average, the present wages are reasonable. If the workmen generally are treated fairly and liberally they will stand and contend for fair treatment of the employer. Let us retain their confidence and loyal support by our action. They will meet us half way if they are permitted to exercise their own judgment and spirit of fairness. Prices generally throughout the country are normal and unreasonable. We ought to get back to a peace basis as soon and as speedily as possible."

The foregoing statement from Chairman Gary of the United States Steel Corporation should be engraved deep into the heart of every employer in this country, so far as regards the protection of labor.

The optimistic spirit of Judge Gary as to five years of prosperity is an optimism based on common sense, sound judgment and faith in America. If the people of this country are wise and have that abiding faith in their country which they had in their armies fighting in France, we will go forward into great commercial progress at home and abroad. Secretary McAdoo to the contrary, there is no reason why our American business men should not go out into the world's markets with absolute fairness to our Allies. They are not asking us to withhold our hands from the normal world-wide commercial activity. It would be a real calamity upon them even to think of doing so. As they were at war our boasted attempts to capture the world's trade, while England and France were fighting our battles, would have brought disorganization and disaster to us. If not dishonor. Now that the fighting has stopped, America and our Allies should push for world trade to the utmost extent possible, thus preventing the accursed nation of Huns and looters from capturing the world's commerce by the same kind of campaign which they put into war against Belgium and France and Italy and England and America. Germany hates America with greater hatred than she hates England, and she hates England with a far greater hatred than she has for France. England and America stood for world domination and world damnation, and therefore Germany and the whole German people, who have not yet shown one sign of repentance, will seek with greater energy than before to keep up their ruthless business methods to capture foreign trade.

There is room enough in the expansion of world activities for the utmost power of America and our Allies in world commerce for a long time to come.

As far as we can now see, this nation will be one of the world's leaders in shipbuilding. Our ships carry our trade to every part of the world as they did in the olden days before they were driven from the seas by the Civil War and its effects. We need officers to become a nation of shipbuilders and shipowners. This means that we must find expansion for our foreign commerce. But entirely outside of our foreign trade, the activities of this country during the next five years should be such as to fully employ the labor of the country. We shall need every man working to his utmost to do the things which necessity must be done if we go forward in a new era of optimism. There is no possibility of a surplus supply of labor during the next five years if this country wisely goes ahead in a spirit of faith and carries on the great construction activities which are sadly needed.

A great army of laborers is needed for the construction of highways in every part of this country, and it will be a national disgrace if we do not immediately begin to duplicate, to some extent at least,

in America the wonderful road system of France. We may rest assured that our soldiers coming back from France will demand from this country that the bottomless mud holes for highways in some places and the sand in other sections shall not remain as evidences of our shortsightedness. We must build throughout the entire country at a cost of billions of dollars a full system of modern highways. Not a day should be lost in hastening their building.

Secretary McAdoo has, unwisely, we think, suggested Government control of the railroads during the next five years in order to spend during that time \$2,500,000,000 for railroad expansion. Mr. McAdoo should have doubled his figures and cut the time in half, for it would take at least \$5,000,000,000 within two and a half years to adequately develop the railroads of the country. Whether run under complete Government control or by private ownership, many billions of dollars must be spent on railroad expansion or else we shall have a more complete breakdown of railroads than we have had during the last two or three years.

House buildings on an enormous schedule must go forward. This must include delayed work on schools, churches, municipal and national buildings, as well as dwellings.

These are but a few of the things which must now be done, and in the doing of which there will be found ample employment for all labor at high wages.

Any attempt to put down the price of labor so long as the cost of living is at the present exorbitant figures would be economically unsound as well as against humanity itself. Liquidation of labor, meaning thereby much lower prices for labor and much unemployed, about which much is heard, is wrong in theory. We do not believe that the rate of wages in this country should be regulated by wages in Europe and in the Orient, and we are absolutely opposed to any thought of bringing down American wages to meet the level of foreign wages. We would rather see our market closed against foreign products than to attempt to put American wages on a par with foreign wages. We believe that the rate of wages in this country will continue high, for the laborer is worthy of his hire, and in times past the laborer has never secured his full share of the profit of business in this or any other country.

It is true that during the war a good many laborers have been slackers, some have loafed and some have demanded high pay for poor work, but this was only inevitable at a time when the laborer realized for the first time in his life that he controlled the situation, certainly to a greater extent than ever before.

Therefore, we must accept the statement issued by Judge Gary as voicing the sentiment of the iron and steel interests of America as marking a new era in the relations between employer and employee, and with boundless optimism in the future of this country plan for great things and do great things. Then we shall have continued activity and unbounded prosperity. Upon business men, whether they be called manufacturers, bankers, merchants, farmers, mechanics or day laborers, rests a great responsibility for each one to do his full share to the honor and the glory of American manhood and American business.

PUBLISH THE TRAITOR NAMES!

THE Congressional committee investigating the German propaganda would render this country an enormous service if it were to complete and publish a list of every man and woman in America who actively aided in the German propaganda in this country. Such a list would be invaluable to the nation, and Americans would then be informed as to the people in their communities who were anti-American and who were copartners with the Hell of German creation. Let us have the list!

OPPORTUNITIES SPELL RESPONSIBILITIES.

WHO can measure the mighty difference between America out in the world with tremendous world responsibilities and the provincial America of four years ago? We are launched upon a new era, fraught with marvelous opportunities, and opportunities spell responsibilities.

WHY WE SHOULD HAVE GONE TO BERLIN.

TO the strains of "Deutschland Ueber Alles," amid the plaudits of millions, with bands playing and flags waving, the Prussian Guards made their triumphant entry into Berlin, while flowers strewn their way, and then they heard Premier Ebert, supposed to represent a new and revolutionized form of government, welcome them home with the cheering words:

"No enemy overcame you. You protected the home land from invasion, sheltered your wives, children and parents from flames and slaughter, and preserved the nation's workshops and fields from devastation. You can return with heads erect."

This represents the spirit of Germany, a nation that glorified and deified war; that made rape and murder a crown of honor; a nation whose women gloried in the bestiality of its men; a nation whose ministers could rejoice in every crime committed because they thought it would add to Germany's power; a nation of ravishers, murderers and looters from whom there has never come one word of repentance and never a word of sympathy for the millions who have suffered and died because of its atrocities, now hails as conquering heroes and beds with flowers the fiends who committed these crimes, and sings a song of praise that these soldiers were "never overcome," but that they "protected Germany from invasion," sheltered the women of that land, and protected its fields and its factories from devastation!

This typical expression of German thought illumines the whole situation; it shows, what we repeatedly said, that until the American and Allied armies marched in triumph to Berlin the German people would never believe that their military power had been overwhelmingly defeated.

That civilization shall yet have to pay for our failure to march straight to Berlin and there dictate peace terms we are entirely certain unless the peace conference atones for the armistice mistake by imposing upon Germany such drastic terms as to make its people for generations to come atone to the utmost of human power for their crimes.

Leniency to such criminals would be a greater crime than Germany's crime, for civilization knows its duty. Has it the moral courage to do the right and leave the consequences with God? If not, civilization is unworthy to live and barbarism should justly supplant it.

WILL YOU DO YOUR PART?

HE who does the most in building highways will do the most for the advancement of material, moral and educational progress of the country.

GERMANY AS AN UNTAMED HYENA.

IN reviewing the testimony now being given before a Congressional committee as to Germany's intrigues in this country the News and Observer of Raleigh, N. C., states the case very clearly when it says:

"Germany as a nation is a barbarian. It is just as well that the fact is held prominently before us by German tactics, for in recognizing it is the only safety. Every move Germany makes is a warning, and certainly the nations have had sufficient warning by this time that they will make no mistakes at the conference. Very much mercy extended there will be mercy extended the untamed hyena once he is caught and in shape to deal with. Mercy is a good thing, but first of all the business of the Allies is to make the world safe for democracy, not for German piracy."

This is the position the MANUFACTURERS RECORD has taken for over four years, and every new development simply makes more clear to the public that our position was right from the very beginning of the war in 1914 as to Germany's moral rottenness and its campaign of murder and outrage and lying in order to conquer and loot the world.

GOVERNMENT CONTROL OF RAILROADS AS PROPOSED BY MR. McADOO UN- WISE.

MR. McADOO'S plan for continued Government control of railroads for five years is, we think, a most unwise proposition. Government control has certainly not given to the public the transportation facilities which private ownership would have provided if the Government had given to the railroads one-half of the freight and passenger increases made by the Government itself or one-half of the pooling rights immediately adopted by the Government upon assuming control of the railroads.

For years the Government vigorously, and it might be fairly said viciously, attacked every request of the railroads for higher rates and for pooling privileges. The moment the Government assumed charge it did everything which it had denied private ownership the right to do. Men like Justice Brandeis and other agitators, who knew as much about railroads as Germany knows about honor and truth, denounced railroads, denied their need for increased rates, and the mob spirit of the nation followed their lead and drove the railroad system of the whole country into latent, if not developed, bankruptcy.

It did not require any special amount of intelligence to see that under this hostile spirit and the legislation which it invoked the railroads were on the toboggan slide to ruin. The war only focussed the Government's attention upon a situation which railroad men had for years tried in vain to make the Government see.

Republicans and Democrats alike were guilty of this short-sighted, narrow policy and of the gospel of hate which the mountebanks preached from every public platform and through almost every newspaper in the land which would open its columns to the mouthings of these agitators.

If the Government will, according to the law, return the railroads to private ownership, with the right to pool traffic as they are now forced to do by Government orders, and allow them a living freight rate based on the higher cost of doing business, the railroad owners of the country can beat the Government management two to one without any difficulty. But if the same hostile spirit as of old is to be shown in Congress, in the Interstate Commerce Commission and in State Legislatures, then it would be better for the National Government to continue its autocratic control and its power to ignore State laws and the law against pooling and to charge whatever freight rates suit the fancy of an entrenched bureaucratic power which could continue to run things to suit itself. However, if the American people want to get away from despotic, autocratic Government domination of their whole transportation system, the sooner they get the railroads out of Government control the better it will be for our future.

In order to be of Service

In relocating in industry the men who went into the army at the call of their country, the Manufacturers Record will publish for any soldier seeking a position in civilian life an advertisement not exceeding 35 words in one issue free of charge.

Manufacturers and business men will find the service valuable in helping them to secure most desirable employees.

With Great Tumult of Joyous Emotion France Gives Greeting to the Armistice

AT LAST AN END TO THE AWFUL SUFFERINGS THE NATION SO LONG
ENDURED—PUNISHMENT OF GERMANY NEVER CAN BE ADEQUATE.

[The Rev. Herbert Whiting Virgin, D.D., the writer of the following letter to the Manufacturers Record, is one of the foremost Baptist ministers of Virginia. He is divisional chief secretary of the Y. M. C. A., American Base No. 6, A. E. F. Dr. Virgin left the pastorate of one of the leading churches in Virginia to join the Y. M. C. A. in France, and has had opportunities to fully appraise the full diabolism of the armies of the Hun. He has previously written messages from the front, based on what he saw and what he learned at first hand, that were all sufficient to stir the most sluggish conscience to deepest resentment against the barbarities of the Germans, and to call for such a punishment of Germany as will make that nation sick of war forever. In a personal letter to the editor of the Manufacturers Record, Dr. Virgin says:

"The observations and interviews which are at the basis of my articles are the outcome of my position, which lets me see France from north to south. I have interviewed dozens, have seen hundreds and thousands who have suffered, and only today have had an interview with a major from the famous Third Division, who fought at the second battle of the Marne, the battle of the Vesle, St. Mihiel and the second of Verdun. The first experiences of his regiment with the devilish methods of the Germans made that regiment take no prisoners thereafter."

Is it likely that soldiers of France such as these, or the soldiers of any nation who have come in contact with the barbarous, inhuman, unspeakable Hun, will agree that any conference of ambassadors shall make a "healing peace" with Germany?—
Editor Manufacturers Record.]

By REV. H. W. VIRGIN, D.D., Divisional Chief Secretary, A. E. F.

It is November 7 at Marseilles. We are in wonderful times here. Peace terms are near. The people of France are wildly joyful. Forgetting all privations, all suffering, all sorrow, they rejoice in the ultimate outcome of their more than four years of war. The people are beside themselves with the exaltation of the moment.

The streets are crowded; everyone carries a flag. Women, both the gentle and the illiterate, the rich and the impoverished, all are joining in hilarious marching and shouting. If an American appears on the street, they embrace him and cry "Vive l'Americain!"

This outburst of spirit is the result of a premature message that an armistice had been signed by the "Allemands." Unfortunately, the message isn't true, and peace is not absolutely certain at this hour. However, the incident illustrates the fact that underneath the seeming calm of the French there is a pent-up emotionalism that needs but the rumor of a possible early peace to make them wild with joy.

There is no doubt of their having suffered. The nation is clothed in black. France is full of widows, and also old men and women and prematurely old children, who have suffered and have hardly understood why.

An official telegram has just come announcing that the claim that an armistice has been signed is but a piece of German propaganda, and that the American Army is to fight on and work on.

Ah me! what a great day it will be when the people shall be free from the blight of the "Hun." For 40 years they have lived under the shadow of this menace. A professor in the University of Lyon stated to me that never for a moment in 40 years had France breathed freely, and always they had stood insult and injury, knowing that the clash was inevitable, but doing everything honor would permit to stave off that day. When the hour struck, the nation was calm—resigned, if you please—believing thoroughly in the genius of their military leaders, but feeling that they were hopelessly outnumbered and quite unprepared.

What wonders France has performed! And what wonders her early ally, the British, have performed! What suffering France has endured! But let us not forget that, barring the devastation and desolation of the invaded territory, England has suffered equally as much as France, and I sometimes think more.

How can Germany indemnify the people whom she has ruined? A French soldier, a graduate of the University of Paris, and a chemical manufacturer of large proportions, has been wounded four times, is therefore "reformed," has had his factory destroyed, his machinery taken away, and especially the copper, and all his buildings razed to the ground. Unable to do further service in the army, unable to go back to his home, penniless, though formerly independently rich, he is now my chauffeur, getting just enough for himself and his

family to live upon in these hard days. His is but one of millions. France is crowded with men and women of ruined fortunes, arrested lives and broken hearts. I repeat, underneath her calm there is a tumult of emotion vast and deep! She has suffered, and suffered terribly!

Since writing the above the armistice has been signed, and it so happened that on the day it was signed, the 11th of November, I was in Paris. Let us witness the scene!

The tumultuous joy which the Parisians manifested was the most remarkable emotional outburst I have ever witnessed or ever expect to witness! The emotions of grief and often of despair for four years and a half, held in check by Parisians and indeed all France, has now reversed itself, and unspeakable joy is on every face, gratitude is in every heart. Great waves of joy sweep over the people, and multitudes upon multitudes move toward the Strasbourg monument at the Place de la Concorde to pay tribute, by placing flags and wreaths upon the monument dedicated to the deepest sentiment which France has, for France has for 30 years remembered the theft of this and other beloved cities stolen by Germany at the outcome of the Franco-German war. I saw the throngs sweep on down the Grands Boulevards, throngs without number, shouting, laughing, singing, weeping, a great overwhelming tide of joy, creating such a jubilant atmosphere that no one was compelled to enter into the spell, be he ordinarily ever so sober in spirit.

The American flag was in evidence as far as the eye could see. Of course, the flags of all the Allies were seen, but one was compelled to note that the Stars and Stripes was the popular flag of the hour, and because of the inborn delicacy which every Frenchman possesses, they carried the American flag often in preference to their own.

People hugged and kissed each other, and the French kissed, or tried to kiss, every American they saw. "Vive l'Amérique!" was heard on every lip, for all of France felt that the American nation had turned the tide, and their energy and skill and bravery and numbers made the outcome certain. Of course, Great Britain came in for her share, and rightly her share of praise is very great, but the 11th and 12th of November was really a tribute to America and will be remembered by Parisians as such.

Affairs are taking shape rapidly now. The work is done, or almost done, and the men of the American Army are thinking of home, and are restless, and will need thoughtful planning, and some of us are thinking earnestly about it, and have pledged to see the thing through. We, too, are hungry for home and home ties, but we must be patient and wait until our time comes to cross over the big pond and greet those who are dear to us and enter again into the home tasks.

[From Evening Sun, Baltimore.]

WARNING IS SENT BY WIRELESS THAT WILSON'S PEACE POLICIES ARE IN DANGER OF OVERTHROW

A Sample of German Propaganda

As near as we can do so we have imitated the exact type and style of this scare head dispatch as published in the Baltimore Evening Sun. This dispatch is so clearly an effort to provoke hostility in this country to the Allies by trying to create a false impression here as to their attitude to the President's peace proposals that America needs to be warned against the desperate efforts of those who think that to belittle the Allies will advance President Wilson's cause.

This dispatch is signed by two of the aggregation of socialistic writers sent abroad by this Government to represent our publicity interests in Europe.

May Heaven graciously save us from being misrepresented by these socialistic pro-German writers whose selection to represent America in Europe is a distinct disgrace to this country and one whose potentialities of evil cannot be overestimated!

The sane people of America must think clearly and see clearly in this great crisis that they may not be misled by those who are seeking to sow seeds of discord in America against England and France for the sole purpose of helping Germany to conquer at the peace table all and more than it has lost on the battlefield. The devilish activity of the hell-directed campaign of the German propaganda is at work in every such dispatch as that republished herewith from the Evening Sun of Baltimore.—Editor Manufacturers Record.

President's Backers Are
Urged To Make Them-
selves Heard.

LONDON PAPER FEARS
BISMARCKIAN PEACE

Declares European Politi-
cians' Attitude Threat-
ens Catastrophe.

SITUATION AMAZES
AMERICANS IN PARIS

European Allies Apparently
Inclined To Ignore Ar-
mistice Agreement.

[By the United Press.]

Washington, Dec. 10.—Warn-
ing was sounded today against
inflicting a "Bismarckian" peace
on Germany. It came in a start-
ling outspoken document made
public through an Allied diplo-
matic channel and bore the
names "Sisson" and "Sharp" at
the end—presumably Edgar Sis-
son and Louis Sharp, of the Com-
mittee on Public Information.

Warns Of Selfish Peace.

This warning counseled against a
peace "dictated by force of selfishness, a
peace built up of broken promises, scat-
tered ideals and principles abandoned the
moment there was nothing more to be
gained by professing them."

Backers of the Wilson principles were
called on "to make themselves heard be-
fore it is too late."

GOVERNMENT'S WEEKLY COAL AND COKE REPORT.

By-product Coke Now Ahead of Beehive Coke Production.

The production of bituminous coal in the week ended
December 7 is estimated by the Geological Survey at
11,008,000 net tons, an increase compared with the
week of November 30 of 1,312,000 tons, or 13 per cent.,
but 1,135,000 tons, or 10 per cent., below the corre-
sponding week of 1917. From the reports of operators
it is estimated that the average number of days worked
in Thanksgiving Day week were 5.3, and the average
daily output that week is shown as 1,830,000 tons, com-
pared with 1,835,000 tons in the week of December 7,
a six-day week. The influenza epidemic is still inter-
fering seriously with production in the Eastern fields,
and production, particularly of domestic sizes of coal,
in the fields supplying the Atlantic seaboard and South-
ern States, is not up to requirements.

The production of anthracite in the week ended De-
cember 7 is estimated at 1,807,000 net tons, compared
with 1,613,000 tons the previous week and 1,778,000
tons in the corresponding week of 1917. The total pro-
duction from April 1 to date is estimated at 68,778,000
net tons, compared with 70,397,000 tons in 1917, a de-
crease of 1,600,000 tons, equivalent to about 850,000
tons of domestic sizes.

Reports from the railroads show for the week ended
December 7 increased shipments from all districts, com-
pared with the week of November 30. Compared with
the corresponding week of 1917, the only districts re-

cording greater shipments were Fairmont, O., Southern
West Virginia and Southwestern Virginia.

The final report of Lake shipments shows for the
season 28,153,317 net tons of cargo coal, a new high
record, and slightly in excess of the program of 28,000,-
000 tons, established early in the season. Shipments in
the week ended December 7 were 80,580 tons. It is in-
teresting to note that although the Lake traffic in 1918
was greater than in 1917, the vessel fuel used was
less—1,600,000 tons in 1917, against 1,300,000 in 1918.
This is attributed to the fact that with fewer vessels
in the trade in 1918 there was less movement of steam-
ers either up or down the Lake without cargo.

Bituminous coal shipped to New England for the
week ended December 7 is estimated at 328,897 net
tons, a decrease of 8.6 per cent. compared with the week
preceding. Rail shipments, 92,352 net tons, decreased
12.4 per cent., and tidewater shipments, 236,545 net
tons, decreased 0.7 per cent. Baltimore was the only
harbor to report an increase in shipments. Shipments
from Hampton Roads decreased 14.3 per cent., and from
New York 4.8 per cent.

Total shipments for the coal year to date are esti-
mated at 20,038,000 net tons, or 0.8 per cent. ahead of
budget. Rail shipments, amounting to 7,573,311 net
tons, are 5.4 per cent. ahead of budget, while tidewater
shipments, amounting to 12,464,586 net tons, are 1.8
per cent. behind budget. Shipments from New York,
Philadelphia and Baltimore are slightly in excess of
budget, but Hampton Roads is 3.3 per cent. behind.

The most notable feature is the recorded general de-

crease in demand for coal in all the territory lying north
of the Ohio and west of the Mississippi River. The per
cent. of time lost at the mines because of no market
rose from 3.3 per cent. to 6 per cent., even though the
production was the lowest recorded in seven months.
Labor shortage and no market were the principal fac-
tors in limiting production in the week of November 30
in all fields except Somerset, Hazard and the Rocky
Mountain States, in which car shortage was the largest
element.

The production of beehive coke in the week ended
December 7 is estimated at 543,000 net tons, an in-
crease compared with 522,000 tons in the week of
November 30, but a considerable decrease compared
with 605,000 tons in the corresponding week of 1917.
Production of beehive coke is now below that of by-
product coke, but the total coke output is above that
for last year.

The production of by-product coke in the week ended
December 7 was 578,139 net tons, compared with 572,-
239 tons the previous week and 429,000 tons in the cor-
responding week of 1917. The percentage capacity pro-
duced is reported as 88.7 against 87.9 in the week of
November 30. Losses aggregating 5.1 per cent. of ca-
pacity are reported as the result of repairs being made
to plants and 3 per cent. for other causes, among which
are noted operation on extended working time, and
using coal from stock pile that gave coke difficult to
"push." The loss of 37 per cent. of production because
of no market for by-product coke in Massachusetts is
to be noted.

Should Germany's Crimes Remain Unpunished, or Could They Be Renewed, Victory Would Be in Vain, Poincaré's Word to Wilson.

At a luncheon to President Wilson, given at the Elysee Palace, Paris, December 11, President Poincaré said:

Mr. President—Paris and France awaited you with impatience. They were eager to acclaim in you the illustrious democrat whose words and deeds were inspired by exalted thought, the philosopher delighting in the solution of universal laws from particular events, the eminent statesman who had found a way to express the highest political and moral truths in formulas which bear the stamp of immortality.

They had also a passionate desire to offer thanks, in your person, to the great Republic of which you are the chief for the invaluable assistance which had been given spontaneously, during this war, to the defenders of right and liberty.

Even before America had resolved to intervene in the struggle she had shown to the wounded and to the orphans of France a solicitude and a generosity the memory of which will always be enshrined in our hearts. The liberality of your Red Cross, the countless gifts of your fellow-citizens, the inspiring initiative of American women, anticipated your military and naval action, and showed the world to which side your sympathies inclined. And on the day when you flung yourselves into the battle, with what determination your great people and yourself prepared for united success!

Some months ago you cabled to me that the United States would send ever-increasing forces until the day should be reached on which the allied armies were able to submerge the enemy under an overwhelming flow of new divisions; and, in effect, for more than a year a steady stream of youth and energy has been poured out upon the shores of France.

No sooner had they landed than your gallant battalions, fired by their chief, General Pershing, flung themselves into the combat with such a manly contempt of danger, such a smiling disregard of death, that our longer experience of this terrible war often moved us to counsel prudence. They brought with them, in arriving here, the enthusiasm of Crusaders leaving for the Holy Land.

It is their right today to look with pride upon the work accomplished and to rest assured that they have powerfully aided by their courage and their faith.

Eager as they were to meet the enemy, they did not know when they arrived the enormity of his crimes. That they might know how the German armies make war it has been necessary that they see towns systematically burned down, mines flooded, factories reduced to ashes, orchards devastated, cathedrals shelled and fired—all that deliberate savagery, aimed to destroy national wealth, nature and beauty, which the imagination could not conceive at a distance from the men and things that have endured it and today bear witness to it.

In your turn, Mr. President, you will be able to measure with your own eyes the extent of these disasters, and the French Government will make known to you the authentic documents in which the German General Staff developed with astounding cynicism its program of pillage and industrial annihilation. Your noble conscience will pronounce a verdict on these facts.

Should this guilt remain unpunished, could it be renewed, the most splendid victories would be in vain.

Mr. President, France has struggled, has endured, and has suffered during four long years: she has bled at every vein; she has lost the best of her children; she mourns for her youths. She yearns now, even as you do, for a peace of justice and security.

It was not that she might be exposed once again to aggression that she submitted to such sacrifices. Nor was it in order that criminals should go unpunished, that they might lift their heads again to make ready for new crimes, that, under your strong leadership, America armed herself and crossed the ocean.

Faithful to the memory of Lafayette and Rochambeau, she came to the aid of France, because France herself was faithful to her traditions. Our common ideal has triumphed. Together we have defended the vital principles of free nations. Now we must build

together such a peace as will forbid the deliberate and hypocritical renewing of an organism aiming at conquest and oppression.

Peace must make amends for the misery and sadness of yesterday, and **it must be a guarantee against the dangers of tomorrow.** The association which has been formed for the purpose of war, between the United States and the Allies, and which contains the seed of the permanent institutions of which you have spoken so eloquently, will find from this day forward a clear and profitable employment in the concerted search for equitable decisions and in the mutual support which we need if we are to make our rights prevail.

Whatever safeguards we may erect for the future, no one, alas, can assert that we shall forever spare to mankind the horrors of new wars. Five years ago the progress of science and the state of civilization might have permitted the hope that no Government, however autocratic, would have succeeded in hurling armed nations upon Belgium and Serbia.

Without lending ourselves to the illusion that posterity will be for evermore safe from these collective follies, **we must introduce into the peace we are going to build all the conditions of justice and all the safeguards of civilization that we can embody in it.**

To such a vast and magnificent task, Mr. President, you have chosen to come and apply yourself in concert with France. France offers you her thanks. She knows the friendship of America. She knows your rectitude and elevation of spirit. It is in the fullest confidence that she is ready to work with you.

I lift my glass, Mr. President, in your honor, and in honor of Mrs. Wilson. I drink to the prosperity of the Republic of the United States, our great friend of yesterday and of other days, of tomorrow and of all time.

President Wilson's Response.

Responding to the address of the President of France, President Wilson said:

Mr. President: I am deeply indebted to you for your gracious greeting. It is very delightful to find myself in France and to feel the quick contact of sympathy and unaffected friendship between the representatives of the United States and the representatives of France.

You have been very generous in what you were pleased to say about myself, but I feel that what I have said and what I have tried to do has been said and done only in an attempt to speak the thought of the people of the United States truly, and to carry that thought out in action.

From the first, the thought of the people of the United States turned toward something more than the mere winning of this war. It turned to the establishment of eternal principles of right and justice. It realized that merely to win the war was not enough; that it must be won in such a way and the question raised by it settled in such a way as to insure the future peace of the world and lay the foundations for the freedom and happiness of its many peoples and nations.

Never before has war worn so terrible a visage or exhibited more grossly the debasing influence of illicit ambitions. I am sure that I shall look upon the ruin wrought by the armies of the Central Empires with the same repulsion and deep indignation that they stir in the hearts of the men of France and Belgium, and I appreciate, as you do, sir, the necessity of such action in the final settlement of the issues of the war as will not only rebuke such acts of terror and spoliation, but make men everywhere aware that they cannot be ventured upon without the certainty of just punishment.

I know with what ardor and enthusiasm the soldiers and sailors of the United States have given the best that was in them to this war of redemption. They have expressed the true spirit of America. They believe their ideals to be acceptable to free peoples everywhere, and are rejoiced to have played the part they have played in giving reality to those ideals in co-operation with the armies of the Allies. We are proud of the part they have played, and we are happy that

they should have been associated with such comrades in a common cause.

It is with peculiar feeling, Mr. President, that I find myself in France joining with you in rejoicing over the victory that has been won. The ties that bind France and the United States are peculiarly close. I do not know in what other comradeship we could have fought with more zest or enthusiasm. It will daily be a matter of pleasure with me to be brought into consultation with the statesmen of France and her Allies in concerting the measures by which we may secure permanence for these happy relations of friendship and co-operation, and secure for the world at large such safety and freedom in its life as can be secured only by the constant association and co-operation of friends.

I greet you not only with deep personal respect, but as the representative of the great people of France, and beg to bring you the greetings of another great people to whom the fortunes of France are of profound and lasting interest.

I raise my glass to the health of the President of the French Republic and to Mme. Poincaré and the prosperity of France.

Tractors Will Be Used to Overcome Labor Shortage on Farms in Mississippi.

Jackson, Miss., December 12—[Special.]—Efforts of agricultural extension workers during the war period to make popular the use of tractors and other labor-saving machinery for farmers will be increased during the coming year, according to announcements from Mississippi A. and M. College.

Four schools in the use of farm machinery will be held in January and February in Grenada, Jackson, Greenville and A. and M. College, and two carloads of the most modern gas-driven machinery will be used in practical demonstrations.

Lectures will be given, and every person who attends will be afforded a chance to handle the machinery. The courses will be limited to 60 students each, as it is desired that the training be intensive, and larger classes cannot be conveniently handled.

In addition to these central schools, a school will be conducted in each county for the benefit of members of the Boys' Working Reserve. Prof. J. T. Calhoun, who has charge of this work in the State, has announced that a number of boys will be selected to go to A. and M. and take a six weeks' course in farm machinery and then sent to the various counties over the State as instructors.

This course will not be open to anyone not enrolled in the Boys' Working Reserve, which is a large and flourishing organization in the State, and embraces practically all the progressive youngsters in the rural districts.

Experts do not believe the returning of Mississippi soldiers will have any very marked effect upon the labor situation in the country, and for this reason are anxious that the farmers be made independent.

Conferences recently held between the executive committee of the State Council for Defense and the representatives of the United States Employment Bureau disclosed the fact that Mississippi farms could absorb all the returned soldiers from this State without any difficulty and then need a great many more men.

There has been no return of the thousands of negroes who swarmed to the North and Middle West during the earlier days of the war, and those in touch with the situation do not look for these negroes to come back. Even if they do, they will want higher wages than have ever been paid in the State, and many farmers will prefer to do their own work with modern machinery than to pay more than they are now paying.

The best farming sections of the State are perfectly suited to the use of the tractor, as they are level or slightly rolling. Many tractors are in use today, and have been found uniformly successful, and a drive is on now for the sale of light tractors, the small, gas-driven engine that is suited to the two-mule farm, and which can take almost any hill a mule can climb.

The gas engine is no mystery to the average Mississippi farmer now, for he has learned its inside mysteries through tinkering with his automobile. Most farmers own cars of a kind well known to all the world.

Power farming is the next step in the agricultural development of the State, for labor is not only scarce, but very high, and power farming enables the farmer to do his hardest and heaviest work with trivial effort compared to the old days of mule-and-negro plowing and cultivating.

What Is Holding Up the War Minerals Bill?

VIGOROUS ACTION IN BEHALF OF POTASH AND OTHER MINERAL INDUSTRIES SEEMS NECESSARY TO SAVE THESE NEW UNDERTAKINGS FROM DESTRUCTION.

[Special Dispatch to Manufacturers Record.]

Washington, D. C., December 17.

If the potash industry of America is to be saved from destruction; if Germany is not to be permitted to again hold the whiphand over us in the matter of potash supplies, using the weapon of a world command of the potash market to secure a comforting bargain at the Peace Conference, it seems that Congress will have to come squarely to the front with action of a mandatory sort.

At a meeting of the American Mining Congress, now being held in Washington, a committee was appointed to wait on Secretary Lane to ask him to put the War Minerals Bill into effect at once. The committee reported that Secretary Lane told them that in view of present conditions, and the criticisms which would be offered of the expenditures necessary under the bill he did not feel that it would be right for him to put it into effect without special authorization of Congress.

Confronted by such an astonishing situation as this, it was decided that the matter shall be taken up at once with Congress to see if some special order cannot be obtained authorizing the Secretary to proceed with the terms of the measure as passed and signed by the President.

The fact that Secretary Lane has frankly expressed his own conviction as to the moral responsibility of the Government toward the production of potash, manganese and other minerals, and yet fails to take action for their protection by putting into motion the machinery of the bill which was passed for that purpose, would seem to indicate that some powerful pressure is being brought against him that restrains his freedom of action.

If this be true, it would seem that Secretary Lane has a further responsibility, and that is to come out frankly and say so, that the people may know the truth as to why he does not move to sustain the honor of the Government. Failure to do this will leave things to be explained which will be very hard to make clear at a later time.

There are ugly rumors afloat that powerful attorneys who also stand high in the councils of the Democratic party have been interested enough in this question to advise the President against permitting the Minerals Bill to be used. If such is the case, it is fair to assume that they have spoken, not as friendly advisers to the President, but as paid attorneys for certain interests and against the welfare of the country. If the President had listened to such counsel, it is certain that he will also listen to honest counsel when it is brought to his attention that he has been badly advised. Whatever the circumstances, it would seem to be the duty of Secretary Lane to use his influence to correct any misapprehension on the part of the President in regard to the necessity for using this law as a means of doing justice.

It must not be overlooked that one of the official communications issued by the Committee on Mineral Imports and Exports of the United States Shipping Board on May 4, of this year, stated regarding these minerals that "the deficiencies in supply must be made from domestic sources." It then refers to the fact that there is pending in Congress a bill for the control of those minerals most affected by ship embargoes, but assumes that it may be several months before it could be passed. It then continues: "If private interests wait until every detail is settled before taking steps to meet the situation, there is danger of vital damage against war industries. Patriotism requires that mines and metal industries do everything reasonably possible to get projects started at once. The necessary Government co-operation may be slow and halting, and mistakes are not unlikely, but as the shipping situation allows no alternative, it is a reasonably safe assumption that the absolutely necessary things will be done in time."

It is a fact that millions of dollars have been spent by patriotic men in this country in the erection of

plants for the production of potash and in developing other mineral resources, trusting in the faith and honor of the United States Government, and that under no circumstances would they have spent a dollar on these enterprises in the face of the foreign competition which would have prevented such industries being developed profitably. They were urged and persuaded by many Government agencies, including the Department of the Interior, to use strenuous efforts to provide these essentials for the nation, and it was universally understood that they would be protected by the War Minerals Bill that was then pending. How can the Administration explain its shortcoming if this obligation is not frankly and honestly met?

Strongly Urge Completion of Locks and Dams to Insure All-the-Year Transportation on Ohio River.

Louisville, Ky., December 12—[Special.]—After a two-day convention the Ohio Valley Improvement Association completed its twenty-fifth annual convention at Louisville today with the re-election of all the old officers, with Col. J. L. Vance of Gallipolis, O., as president, and naming Paducah, Ky., as the 1919 convention city.

The organization, instead of going after the proposed ten-million-dollar barge line for the Ohio, decided to push the completion of locks and dams, as the construction work to bring about the nine-foot stage was deemed more essential at this time than a barge line, which would require an all-year stage of water.

It was reported that during the 25 years that the organization has been fighting for improvements a total of 65 per cent. of the work has been completed. The improvements call for 54 sets of locks or dams. Twenty-five have been completed; twelve are under construction; funds are available for three more; sites secured for nine, without money to do the work; four sites not yet secured, and one abandoned.

The sense of the meeting was that every energy should be bent on completion of the work, which the Government had expected to finish by 1922, but which has met with slow progress during the war period, due to scarcity of material and labor and lack of money to carry it ahead. It is claimed that some of the early work will have deteriorated if the Government works no faster on the latter part of the work than on the first part.

Some interesting comments were heard concerning the need of more modern equipment when the stage is finally secured. C. Lee Cook of Louisville, a prominent manufacturer of packing materials, stated that all-steel boats and barges would be a great economy, as they could not burn, could buck ice that would sink wooden boats, and if properly cared for would last indefinitely. He also called attention to the fact that bankers have never cared to finance equipment of wooden construction, but would feel differently toward steel construction, especially on the towboat built of steel from hull to top of stacks.

About 150 delegates were present at the convention, including mayors of several of the river towns from Pittsburgh to Cairo, and a number of coal men, lumbermen, steamboat men, and executives of business men's organizations, boards of trade, chambers of commerce, etc.

Several Mississippi River men were present who are greatly interested in eventually making straight connection from the South to Pittsburgh by river. The long-distance visitor was R. J. Miller, a lumberman from Seattle, Wash.

Several thousand dollars were raised during the convention for the purpose of furthering its work. Resolutions were adopted which will be sent to members of Congress and others.

The resolutions urged the completion of the work on locks and dams in the interest of improved and highly desirable waterway transportation, and recommended

"that Congress amend section 11 of the Panama Canal act by making mandatory, instead of permissive as now, the exercise of jurisdiction and control by the Interstate Commerce Commission over all water transportation lines engaged as common carriers of interstate commerce on inland waterways, with power to regulate water rates between rail and water carriers, and to establish over both systems of transportation maximum and minimum rates."

The annual report to the association was prepared by the Business Men's Club of Cincinnati. It covered several interesting phases of the work, and called especial attention to the relief afforded in handling coal during the fall of 1917 and 1918, low-stage seasons, by creating artificial waves in the Ohio through manipulation of the locks and dams which are now in operation. During the two years a total of 467,000 tons of coal were brought to Cincinnati and way points by water and relieved the great industrial demand for war work to some extent. Under the old system of things not a ton of coal would have come down from the Ohio and Kanawha River mines during this period of the year.

It was claimed at the meeting that the river had been of some advantage during war times while improvements were only partially completed, and if the work was properly carried out the river would be of great advantage to shippers and the country in either war or peace times and add greatly to the country's ability to move heavy tonnage.

Organization of Texas Broomcorn Growers.

McAllen, Tex., December 12—[Special.]—Growing broomcorn has become such an important industry in the lower valley of the Rio Grande that a meeting of farmers interested in the crop was held here recently and steps taken to form a permanent organization, with a view of improving the methods of handling and marketing the product. There was a large attendance of growers, nearly every locality in the valley being represented.

It was decided that every member of the association pledge a certain amount of acreage, the crop of which would be contracted for by the association and not sold to anyone except through the association and under its rules.

Soft Phosphate and Its Advantages.

In view of the fact that the soft phosphate business in Florida is rapidly developing, bringing into use a product heretofore wasted or else not mined, a pamphlet issued by the Franklin Phosphate Co. of Jacksonville is of timely interest, dealing as it does with the merits of soft phosphate. In it the company says:

"We are not offering this product as a material to solve all agricultural problems, to increase, regardless of other conditions and other fertilizer materials used, all crop yields, for nature's bountiful rainfall and abundant sunshine, coupled with energy and intelligence used in the cultivation of crops, will always influence the results secured.

"We do submit, however, that this 'calci-phosphate' is a natural, effective, dependable and economical source of phosphorus, and experiments which we have conducted, as well as results had from use by our customers, have established this fact. * * *

"Soft phosphate was never rock, nor will it ever be rock. It is a soft and porous material, and therefore more soluble. When dried and ground and applied to the soil, natural form, it becomes more quickly available—soil soluble—as a plant food than any other form of untreated phosphate."

Continuing, the book says that soft phosphate will analyze from 22 to 30 per cent. phosphoric acid, and that this product as marketed by the company and known as "calci-phosphate" contains a minimum of 26 per cent., and quite often will contain 28 to 30 per cent. of phosphoric acid. It is ground to extreme fineness, put through dryers and pulverizers so that it will readily be soluble when applied to the soil. It is further asserted that soft phosphate occupies a middle ground between acid phosphate and ground phosphate rock as to rapidity of assimilation in the soil, being neither as fast as the former nor as slow as the latter.

Results of tests of soft phosphate by agricultural experiment stations are also presented in the pamphlet, together with much other interesting and important information concerning this natural product and including facts as to the method of applying it to the soil.

\$15,000,000 ARMY SUPPLY BASE AT NEW ORLEANS

GOVERNMENT BUILDING THREE CONCRETE WAREHOUSES OF SIX STORIES EACH, A LARGE DOUBLE DECK WHARF AND NINE MILES OF RAILROAD TERMINAL TRACKS.

By THOMAS EWING DABNEY.

Delayed by labor shortage and failure of material to arrive, work on the warehouses and wharf of the United States army supply base here is so far advanced that officials are predicting their completion by March.

When they are finished New Orleans' terminal facilities will have been increased by a series of warehouses capable of holding at one time as much freight as moves across the wharves of the port in 10 days, a system costing more than the docks, grain elevators, cotton warehouses and belt-railway line, which make this port one of the most efficient and in many respects one of the most remarkable of the country's harbors. State and city combined to build them, and it is appropriate that the nation should now add its share to the terminal facilities.

The grain elevators here, among the finest in the country, cost \$3,017,446; the cotton warehouse, one of the largest storage plants in the world for an agricultural product, \$3,718,020; and the wharves \$4,346,323. These were built by the State Dock Board and are operated by it. The Public Belt Line, which connects every incoming railroad with the docks, was built by the city of New Orleans and cost \$1,346,633. Total, \$12,428,422. And the Government's new facilities are costing \$15,000,000.

This great improvement includes three concrete warehouses 140x600 feet and six stories high, a double-decked wharf 140x2000 feet, and nine miles of railroad track. The warehouses will be connected with the wharfhouse by enclosed multiple-deck bridges. The three warehouses will have a storage capacity of 178,500 tons of miscellaneous freight, this being exclusive of what might be stored in the wharfhouse and in cars on the railroad sidings. Built on the industrial canal and the river, the warehouse system will be equipped with the latest mechanical devices, including electric tractors, stacking machines, portable cranes, electric winches, portable unloading platforms and cargo masts.

The whole thing is typical of the development of New Orleans within the last decade, and especially within the last year, this including not only actual physical accomplishment, but the enlarged public point of view which enabled the city to start the industrial canal on a scale many times greater than any of the former plans.

Early in 1918 the Dock Board, creator of the port of New Orleans in the modern sense, began work on one new warehouse on the canal site. The board didn't have much money, but it had unbounded faith in New Orleans, and this was to be the commodity warehouse, its purpose being to serve for coffee, sisal and other products, export as well as import, offering storage and handling facilities and issuing warehouse receipts negotiable in the money centers, and enabling owners to

hold goods for the most favorable market, while also having the use of their capital.

Meanwhile the Government saw the necessity of establishing a supply base at New Orleans because of the port's location with respect to the Panama Canal, as well as Gulf of Mexico ports generally. So the Government took over the commodity warehouse already begun and multiplied the plans by three. From the beginning it planned to make the base permanent, realizing that not only during the war, but for a long period after the termination of hostilities, it would need every inch of space in the entire system; yet after the world has been rehabilitated and the volume of military shipments has diminished, the Government plans to turn two of the units over to the Dock Board for incorporation in the public port facilities of the city, so that New Orleans, which so timidly undertook the construction of one warehouse, now looks forward to the time when it will have two.

As many as 4000 workmen have been employed simultaneously on the big job. Two of the units are far advanced, and the pilings of the wharf are driven. Work on the third unit will begin shortly. It will probably go forward a little more rapidly than that before, as the foundations will be of Raymond concrete piling, placed without excavation.

The principal items of material used in the warehouses are: 34,500 piles, 48,000 cubic yards of sand, 93,000 cubic yards of gravel and 162,000 barrels of cement, 7500 tons of steel, making 108,000 cubic yards of reinforced concrete. Nine million square feet of lumber are needed to make the forms. Then there will

be 78,000 square feet of steel sash and 252,000 square feet of roofing.

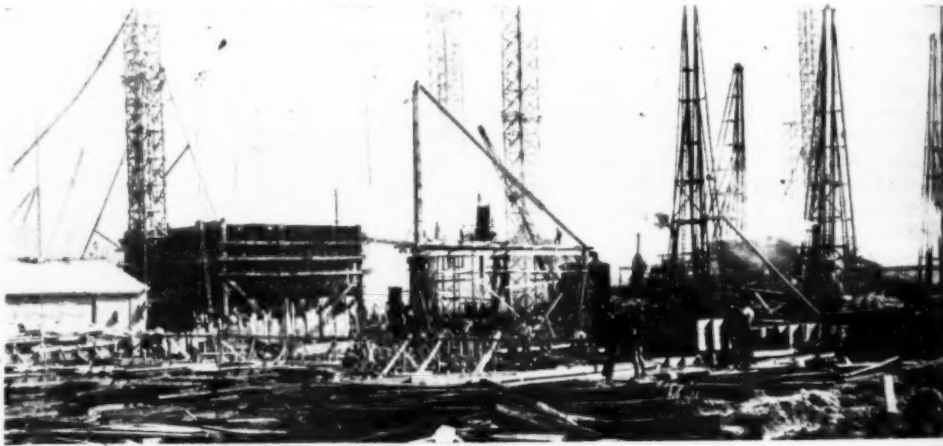
The wharf and wharfhouse will need 21,000 feet of creosoted pilings, 5,000,000 feet—board measure—of creosoted timber, 2,000,000 feet of untreated timber, 5,600,000 pounds of structural steel, 96,000 square feet of corrugated steel siding, 37,000 square yards of wood-block flooring, and 280,000 square feet of roofing.

Major A. P. Hoover, formerly of Goodrich, Hoover & Bennett of New York, and designer of the Detroit terminals, is in charge of construction. The contractor is George A. Fuller & Co. of Kansas City, with Russell H. Hunter general superintendent. George H. Davis and William von Phul of Ford, Bacon & Davis, New York, are in charge of the engineering department.

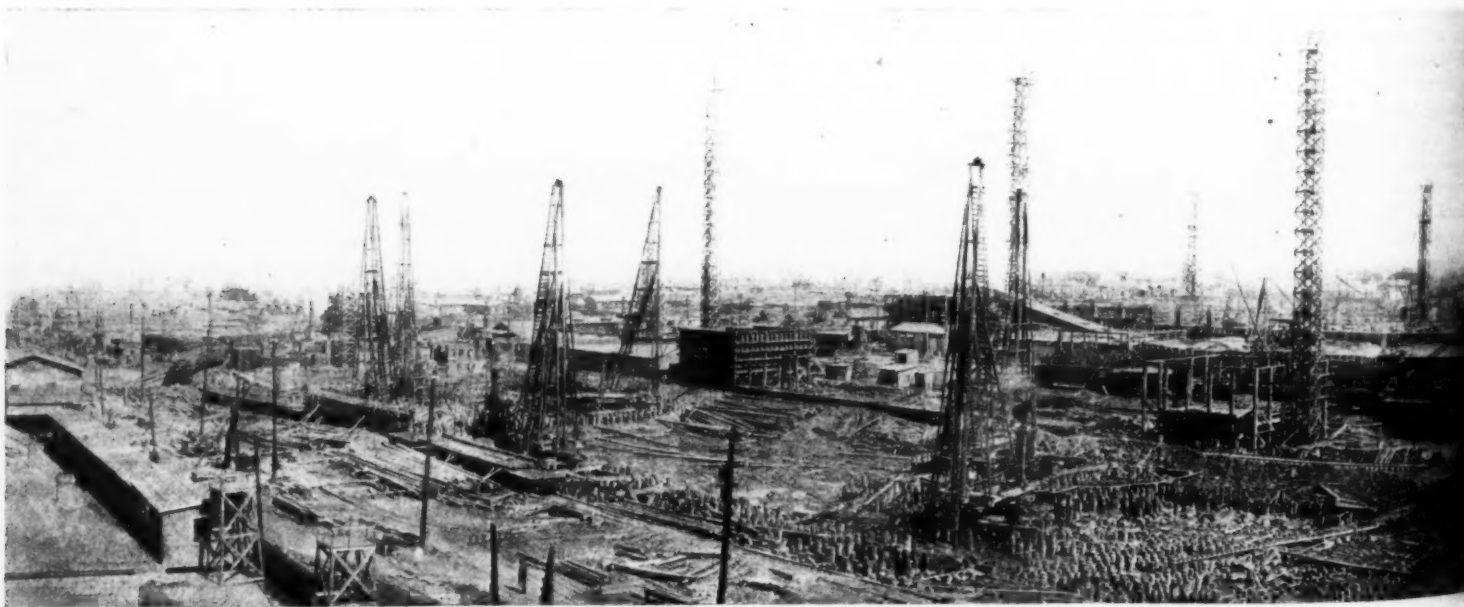
This site is one of the busiest spots in the country today, as the Government's big contribution to the South is visibly taking form—a forest of pile-drivers and concrete towers, carloads and piles of material that bewilder the eye, swarming workmen and a rush of steam, but it will be even busier when the doors of the new warehouses finally open and the ships range along side the wharf, five in a row, to take on treasures from the Mississippi Valley or to land a wealth of products from Latin America.

Another Oil Refinery for Texas.

Fort Worth, Tex., December 12—[Special.]—Another oil refinery is to be added to the long list of such plants to be constructed in Texas in the immediate future. It is announced that the Evans-Thwing Con-



FOREST OF CONCRETE TOWERS AND PILE DRIVERS AT THE SITE.



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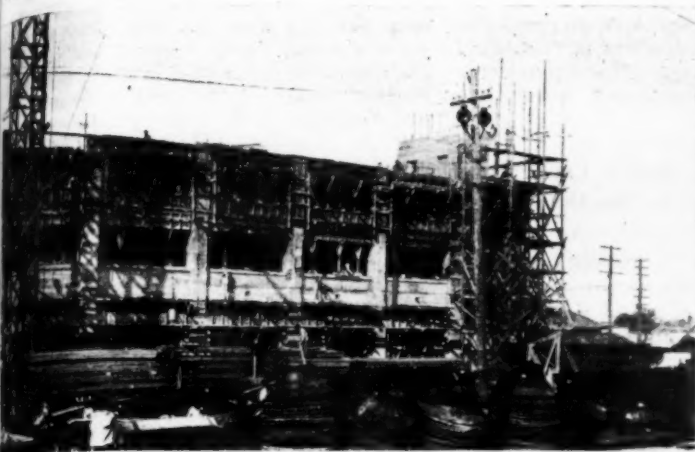
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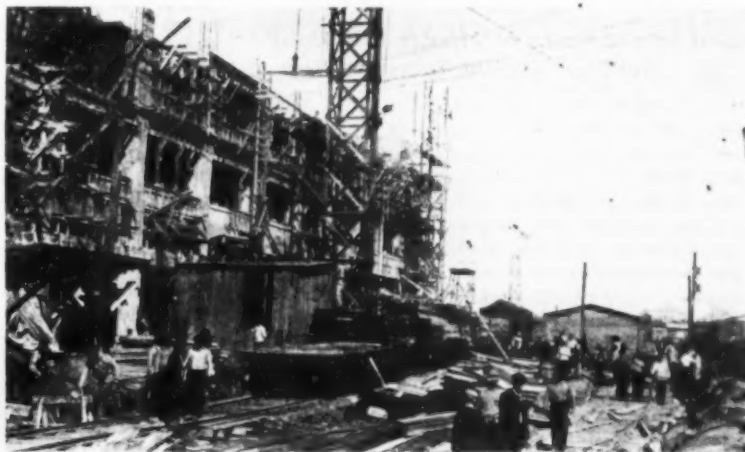
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ONE OF THE SIX-STORY WAREHOUSES NEARLY COMPLETED.



A WAREHOUSE IN PROCESS OF ERECTION.

New Viaduct Proposed at Knoxville.

Knoxville, Tenn., December 12—[Special.]—Knoxville will advertise within the next few weeks for bids for a reinforced concrete viaduct spanning the Southern Railway tracks, to be known as the Gay-street bridge. This viaduct will be about 900 feet in length and 60 feet wide. At a conference called by Mayor John E. McMillan to discuss the viaduct it was decided to push the new viaduct as the first work after the war. The people of Knoxville will be asked to vote \$200,000 additional bonds to build this structure. The city now has \$150,000 from previous bond sales for this purpose. Commissioner John W. Flenniken, who has charge of this department, with J. B. McCalla, City Engineer, is now going over plans for the new structure, and it is possible that they may call in another engineer who has made a specialty of viaduct construction.

This will be the opening of city work in Knoxville for 1919. A number of streets will be paved.

Labor is becoming more plentiful in this section. The American Zinc Co., 10 miles east of Knoxville, and other industries are working full force.

\$5,000,000 Pipe Line for Cosden Interests.

A pipe line 250 miles long is to be constructed by oil interests in which J. S. Cosden and others are associated, the line to run from the Ranger, Tex., field to Tulsa, Okla., where the Cosden refinery is situated. The estimated cost of the line is \$5,000,000. A subsidiary company will be formed to build it. Oil to be received by this line will enable the large refiner to operate at capacity. The new company is to be called Southwestern Pipe Line Co., according to report.

Building Activity Looked for in Mississippi.

Jackson, Miss., December 17—[Special.]—The building outlook was never better in the history of the State. For the past two years the State has enjoyed unparalleled prosperity, and there has been no opportunity for any of the money that has been made to be turned into homes, better business buildings or improved farm buildings. As soon as the armistice was signed a revival of building activity was sensed, and by spring all this will be under full headway.

Government orders kept the wheels turning at the larger factories for virtually the entire period of the war. Mills that have been getting out ship's timbers will continue to revive many orders from coast points, shipbuilders declare, as they expect to continue to turn out wooden vessels for coast and Central and South American trade.

Lumbermen do not believe there will be any sudden drop in prices for the next few months, although they expect a downward tendency that will gradually bring their products back somewhere near the levels of the ante-bellum days. They think building operations will be hampered only a little by high prices, as there is plenty of money in the State, and many contemplated buildings are needed at once.

The labor situation has already taken a turn for the better. As one lumberman expressed it, "as soon as the armistice was signed it appeared that labor realized conditions had changed, and those having good jobs manifested at once a desire to hold them." Negro labor is pouring back in a flood from army camps.

Retail lumbermen are not overstocking for the immediate present, and will not buy very extensively until the necessary period of readjustment has been got through with, but they are perfectly confident the coming year will be a good one.

120-MILE OIL-PIPE LINE.

Magnolia Petroleum Co., a Standard Oil Subsidiary, Doing Active Development.

Corsicana, Tex., December 16—[Special.]—Construction of an eight-inch oil-pipe line from Ranger to Corsicana, 120 miles, has been started by the Magnolia Petroleum Co., a subsidiary of the Standard Oil Co. It was originally planned to use the new pipe line which the Gulf Pipe Line Co. is constructing from the same field, but the Magnolia company finally decided to build its own line, which will have branches running into all the fields of Central West Texas. At Corsicana it will join the company's trunk line from Oklahoma to Beaumont, and will thus give an additional supply of oil to the Beaumont refinery.

The Magnolia Petroleum Co. operates a refinery at Corsicana on production from the Corsicana field and Oklahoma crude, but this plant will not be enlarged, and the West Texas crude will go to Beaumont.

The company owns some of the best acreage in the Central West Texas fields, and has a large number of wells drilling in good territory. It was the first to erect a loading rack in the Ranger field, and has been active in development there. It also has several wells drilling in Northern Coleman county, and it recently completed a 75-barrel well on the Morris tract there.



OIL SUPPLY BASE AT NEW ORLEANS.

GREAT ALCOA DAM COMPLETED.

Aluminum Company of America Also Finishing Power Plant on Little Tennessee River.

The huge dam under construction at Alcoa, Tenn., during the last two years has just been completed for the use of the Aluminum Company of America, which built it through the medium of a subsidiary corporation, the Knoxville Power Co. The water went over the top last Friday afternoon for the first time, and it is stated that the next step in connection with this big piece of engineering will be the completion of the power plant to supply greatly increased electric power to the Aluminum Company's plant at Maryville, Tenn.

This immense engineering work, which impounds the water of the Little Tennessee River for industrial purposes, forms a lake 10 miles long and the face of the dam is 210 feet high from the surface of the stream to the top, or 225 feet from the foundation to the summit. At the base it is 350 feet across the stream, at the top 725 feet. At the base it is 175 feet thick and 12 feet at the top. It will produce 80,000 horse-power. It contains 200,000 cubic yards of concrete and 1200 men took two years to build it. Six days were required to fill the dam. The dam is said to be the largest in the country with the single exception of the Roosevelt dam.

The Knoxville Power Co. was organized about 15 years ago to develop water powers in the mountains east of Knoxville, says a correspondent of the Sentinel. Congressman R. W. Austin and the late Gen. T. W. Wilder were among the leaders in the movement. Others became interested with them. At length they brought the project to the attention of the Aluminum Company of America, of which A. S. Davis of Pittsburgh is president. Mr. Davis and engineers visited the properties, and were quick to appreciate the hydro-electric possibilities of the plan. The fact that electricity is imperative in the successful manufacture of aluminum caused Mr. Davis to look this way for future development of his great industry. The Knoxville Power Co. was taken over by the interests associated with the Aluminum Company, and the plan of building a great aluminum plant near this prospective power was entered into.

The initial plant was finally placed at Maryville, where it is now working both day and night, and is employing several thousand people. It is now obtaining electric current from the Ocoee dam and also from Hales Bar, and even this is insufficient to supply the needs of the vast industry. Therefore, the Knoxville Power Co. is developing the dam at Alcoa.

So important was the project, and of such great commercial value, that the interests represented in the dam project actually paid for and submerged a million dollars' worth more of work done by the Southern Railway in building its Tennessee & Carolina Southern branch line into the mountains towards Bushnell. The Southern Railway appreciated the great value of the dams and their consequent industries to this city and section, and was willing to sacrifice this road, already built, and to reconstruct its lines along a higher grade in order to make the great lake resulting from the dam.

Likewise owners of millions of acres of property were indemnified, or the riparian rights or the property purchased outright by the company. Thus more than a million has been expended in this gigantic undertaking.

The next step will be for the completion of the power-house in which the electric generators will be located. These will be propelled by the water from the dam, and it is expected that a maximum of not less than 80,000 hydro-electric horse-power will be generated. The power may be turned on about March 1, next, according to the plans.

Planning for Operation of Kingsport Industries on Peace-Time Basis.

Kingsport, Tenn., December 12—[Special.]—Major-General William L. Sibert, director of the division of chemical warfare, accompanied by several army chemical experts and army officers of the army construction department, inspected several plants in Kingsport recently which have been working on Government contracts. The object of the visit, he stated, was to consider means of continuing the operation of the Kingsport industries on a peace-time basis. "I am delighted

with my visit to Kingsport, and am certain that the city has a great future," General Sibert stated. He added that East Tennessee and southwest Virginia had left a deep impression upon him. "The opportunity of this section for industrial development is unlimited," he declared.

Building Operations, Railroad Construction and All-Around Activity the Outlook for Texas.

Austin, Tex., December 14—[Special.]—Although one of the first needs that is to be met as a result of the lifting of the restrictions on the use of building materials will be the erection of residences to solve the housing problem that exists in many of the cities and towns of Texas, preparations are being made for extensive construction operations in other lines.

One of the features of the after-the-war development movement will be the installation of many new public utility plants and the improvement of existing plants of that character. Orders are being placed for equipment for electric-light and water-works plants, and an increased demand for material for the construction of sewer systems is also to be noted.

One of the direct results of the protracted drouth that afflicted a large part of Texas during the last two years is the awakening of an interest in irrigation on the part of many farmers. Several large projects of this nature are on foot, particularly in the southern and western parts of the State. It is anticipated by machinery dealers that there will be installed a greater number of irrigation pumping plants during the next few months than ever before in any corresponding period. Many thousands of acres of alluvial land in the valleys of the Rio Grande, Nueces, Concho, Colorado and other streams are to be reclaimed by means of irrigation. The proper distribution of the water of the rivers is now receiving the attention of the State Board of Water Engineers.

Since the armistice was signed there has been a revival of several projects for the construction of interurban electric railways. It is anticipated by the promoters of these projects that no difficulty will now be met with in obtaining the necessary money to carry out the deferred plans. One of the most important of these proposed transportation lines is the Southern Traction Co.'s projected extension of its interurban electric railway from Waco south to San Antonio, a distance of about 185 miles. At the time war was declared the survey for this proposed extension had been made and much of the right of way obtained. In connection with the construction of the line to Austin it was planned to build here a large electric power plant similar to the ones which an affiliated company is operating at various other points in North and Central Texas. It is now said that this company has under consideration the construction of a large central power station to be located in the heart of the lignite fields at Rockdale. This cheap fuel is to be used in the generation of electric power.

Another interurban electric railway that may now be constructed is that of the Houston & San Antonio Interurban Railway Co. This proposed road is to run between Houston and San Antonio, a distance of about 225 miles. The route has already been surveyed and the right of way for most of the distance secured. The Dallas & Northwestern Interurban Railway Co. and the Dallas & Southwestern Interurban Railway Co., which belong to the same interests, were well advanced with the preliminary plans for the construction of those two projected lines at the time the war began. The carrying out of the projects was necessarily temporarily abandoned. Active steps have now been taken, however, to resume construction work which had already begun between Dallas and Irving on the Dallas & Northwestern line.

It is announced that the Dallas Railway Co., which under its new franchise granted by that city is required to construct two interurban lines out of Dallas within the next two years, each road to be not less than 30 miles long, will begin the work of meeting this requirement in the near future. One of the proposed lines, it is said, will run to Terrell and the other to Denton.

One of the encouraging features of the revival of construction and business projects in Texas at this time is the unusually favorable outlook for a splendid crop season in 1919. Bountiful rains have fallen all over the State during the last several weeks, and one of the best winter seasons in many years is now in the ground.

The acreage of small winter grain, particularly oats, is larger than for several years. This affords an excellent winter pasturage for thousands of head of livestock. The condition of winter wheat in North Texas and the Panhandle could hardly be better, according to reports from those parts of the State. If the price of cotton keeps up, there will probably be a very large increase in the acreage of that crop next year.

According to advices received from the several deep water ports of Texas, where shipbuilding yards are located, this new industry will be continued upon practically as large a scale as it was during the war. In no instance has there been any announcement as yet of the abandonment of existing shipbuilding yards. The owners of these industries anticipate that they will receive many orders for the building of wooden ships from private concerns after they have finished the Government contracts that they are now working on.

Trade between Texas points and Mexico shows a material increase. This is true not only of rail shipments, but by coastwise vessels. Native products of Mexico are now coming into the United States through Texas points in larger quantities than for several years, according to the statement of the customs authorities.

The holding movement of cotton on the part of local merchants, especially, still continues. In most instances the failure on the part of these buyers to dispose of their cotton is due to the fact that they bought it at a price around 35 cents a pound, and since the product has gone down in price they cannot turn their holdings loose without suffering heavy losses. While there is still considerable cotton in the hands of farmers, this accumulation is not unusually large. The railroads have been able to handle the product without the congestion that characterized previous marketing seasons.

\$25,000,000 Worth of Improvements by Bethlehem Steel Co. at Sparrows Point.

Vigorously proceeding toward the completion of its plans heretofore described to make Sparrows Point, Md., one of the largest steel-making centers in the United States, the Bethlehem Steel Co. has now in progress there the construction of additions and improvements which will cost \$25,000,000 when finished, and this is only part of the program, which will run up to \$50,000,000 or more in its entirety.

The work under way includes the erection of a big new plate mill, a duplicate of the plate mill already in use, while the foundations for a third plate mill are already laid. The mill now building is of steel-frame construction, with brick walls and steel sash windows, the whole on a concrete foundation, the roof also being of concrete. The coke plant is being enlarged to a total of 360 ovens, the addition now being made consisting of 240 Koppers ovens with the most up-to-date by-product recovery plants. The coke plant supplies gas to the Consolidated Gas Electric Light & Power Co. of Baltimore for lighting and heating purposes, and the latter company is constructing a 24-inch pipe line from its Canton works in the suburbs of Baltimore to Sparrows Point to convey the increased output of gas, this in addition to the main now used.

The steel company is building three more ways at its shipyard, which will make a total of 10 ways at the Point. Each of the new ways is 600 feet long, and will be able to accommodate ships of 15,000 tons. Concrete and wood are the materials used in the construction of the ways. An addition is also being made to the fabricating shop 160x40 feet, while an extension of 42x45 feet is being made to the layout shop. An electrical shop 150x75 feet is also being built. All these are steel-frame buildings, so arranged that completed products from them will pass uninterruptedly through to the shipways where ships are being built.

A large new ore pier was recently completed for receiving ore from the company's mines in Cuba and Chile. It is equipped with electrically-operated derricks, cranes, etc., and railroad tracks. More electric equipment is also being installed at various points through the great plant. The reclamation work of the company to make available for future expansion of facilities large areas of swampy land continues without halt, slag from the company's furnaces being used for this filling-in process.

The company has just filed in Baltimore county, where its plant is situated, its mortgage for \$50,000,000, dated May 1, 1912, at 5 per cent. and to run 35 years, this to secure the first lien and refunding bonds, the proceeds of which are to be employed for the improvements hitherto described.

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Many Hands Will Be Needed in Industrial Development Work in Baltimore District.

Hundreds of men and women released from the industries of Baltimore as they gradually slacken war production and turn to peace-time production are readily being absorbed by non-war-working industries that are preparing for big business in the immediate future. The shipyards are urgently in need of men in great numbers. Also there will be work for many in various new improvements under way or proposed. Among these will be an extension of the United Railways & Electric Co. from its present Sparrows Point line to the Bethlehem Steel Corporation's yards, to cost about \$150,000. The Emergency Fleet Corporation will aid in building the extension.

The Piel Construction Co. of Baltimore is erecting a large storage depot at 6th street, Fairfield, Anne Arundel county, for the Navy Department, and known as the United States Naval Fuel Depot. Eight new tracks have already been laid, and considerable progress has been made in the construction work.

The Baltimore & Ohio Railroad has let a contract to the McIver Construction Co., Fidelity Building, Baltimore, for construction of coal bunkers, grading and laying of additional sidings near Dundalk.

The American Ice Co. has awarded to George M. McEater of New York contract for erection of an addition to its Milton avenue plant, 70x100 feet, of brick and concrete, steel frame, etc.

Edward L. Palmer has completed plans for two pumping stations to be erected at St. Helena.

A two-story brick structure, 35x50 feet, for the Liberty Housing Corporation will be built by the Consolidated Engineering Co., while a sewage-pumping station, 37x50 feet, will be erected by Fisher & Carozza.

Extensive additions to the General Chemical Co.'s plant at Race and Winder streets to cost over \$150,000. Westinghouse-Church-Kerr Company of New York are the contractors.

The Mellon-Stuart Company of Pittsburgh has completed about 60 frame dwelling-houses and a two-story modern brick hotel having 60 rooms for the Baltimore Car & Foundry Co. at Curtis Bay. The buildings will be rented to employees of the company, and the hotel will be for the convenience of business men visiting Curtis Bay and vicinity.

The car company is razing a wooden building formerly used as a bolt shop, and is installing modern bolt-making machinery and equipment in a new all-steel unit. It will be one of the most complete plants of its kind in the section, and will be operated by women workers. The company is concentrating upon the building of all-steel cars for the French and American governments.

The McIver Construction Co. has about completed a large shrapnel bullet plant for the John T. Lewis & Bros. Company. The plant will manufacture bullets for shells manufactured by the Bartlett Hayward Company. It is one of the largest and most modern of its kind in the world. It adjoins the Park plant of the Bartlett Hayward Company. The \$1,000,000 forge and billet shop of the Park plant has been completed in record time, and shells are already being forged. Heretofore the forgings have been received from other plants, but four complete forging presses and eight furnaces have been installed in addition to the billet-shop equipment and crane installation for handling the materials.

5000-Barrel Oil Plant for Fort Worth.

Fort Worth, Tex., December 14.—[Special.]—It is announced by Jacob Taxman, president of the Eldorado Refining Co., that equipment has been purchased for the refinery which it will build here. The initial capacity of this plant will be 5000 barrels of crude oil daily. The company's headquarters are at El Dorado, Kans., where it now operates a plant. It owns six other refineries which are either now under construction or in regular operation.

Increased Livestock Receipts in November.

Increased receipts of cattle, hogs and sheep at 32 markets during November, 1918, compared with receipts at the same markets in November, 1917, are shown in the monthly stock-yards report just issued by the Bureau of Markets, U. S. Department of Agriculture. November receipts for both years were:

	1918.	1917.
Cattle	2,183,545	2,158,710
Hogs	3,479,653	2,950,658
Sheep	2,072,700	1,007,335

France's Heroic Suffering for Civilization

STIRRING APPEAL FROM MR. ANDRE TARDIEU OF FRANCE FOR AMERICA'S CO-OPERATION.

[Mr. Andre Tardieu, General Commissioner of Franco-American War Affairs, in a recent address to leading American editors, made a superb statement of what France had suffered in the great fight against barbarism and of what France asked of America in the work of rebuilding its waste places. His address, in full, is as follows.—Editor Manufacturers Record.]

By ANDRE TARDIEU, Commissioner of Franco-American War Affairs.

I left the United States on the 15th of last May. At that time we had faith in victory, but we had yet to achieve it. Today we are conquerors. This victory is first the work of our troops, who since the end of March, on all fronts, have fought without respite. This victory is also the work of the civil populations, who, by their unshakable moral force, have been worthy of the combatants, and who, by their agricultural and industrial activity, have nourished the battle. This victory is finally the work of the loyal statesmanship, skilful and wise, by which President Wilson has prepared the Allies and the United States to fix, with entire freedom, in answer to the German demand, their conditions of an armistice.

In this magnificent situation we are not obliged to say, as did the conquerors in 1871, "Strength surpasses the right." For it is the right itself which our strength has made triumph, and it is right incarnate.

In this triumphant hour permit an associate of the man who has led France to victory, of Georges Clemenceau, to speak to you of this France, which you love, and to tell you in what a situation the success of the Allied armies finds her.

During the 18 months in which I directed, whether in this country or in France, the Franco-American war co-operation, I can declare that I have thought only of the war, spoken only of the war, and that I have lived only for the war. I have never wished that one atom of our energies be distracted from the effort that victory demanded. But today, when this victory is in our hands, the French Government comes to tell you through my mouth what tomorrow will be the needs of France, and what new labor is imposed on her in order to dress the wounds of war. I add that to bring this great work to a successful issue France counts on the aid of the Allies.

The strength of a people is made of different elements—men, wealth, means of production, commercial clientele. In France the war has struck hard each of these elements, and we have to achieve a general reconstruction which has no precedent in the history of the world. In killed, mutilated or prisoners who will come back worn out and ill from German prisons we have lost more than two and one-half million men—men who have completely vanished or who, definitely lessened in their capacity for work, will not participate in this reconstruction. Thus, a fifth of our population is lacking in the hour when to restore our life we have need of all our material and moral forces. And it is the youngest, the most vigorous part of the nation, it is the whole springtime of France which has thus fallen on the field of battle, depriving our country of its most precious resources.

On the other hand, our war expenses burden our shoulders with a heavy weight of 120,000,000,000 of francs, and to liquidate this debt we have only at our disposal the reduced resources that invasion has left us. The territories that Germany has occupied during four years were, in fact, the richest of France. They only represent 6 per cent. of the area of the country, but they paid, themselves alone, 25 per cent. of the total of our taxes.

Now, these lands, which for three months we have occupied at the price of our blood and of the blood of our Allies, come back into our hands in a state of prostration which surpasses our fears. The soil is ruined, incapable of producing for months, perhaps for years. The fruit trees are cut down, sawed level with the ground, struck dead by systematic design of the invader. Of towns and villages only ruins remain; 350,000 dwelling-houses have been annihilated. To restore these houses (I do not speak of fixtures or of furniture) it will take 600,000,000 working days, representing, with the materials of construction, an expense of 10,000,000,000 francs. What these houses contained, which has been either destroyed by battle or stolen by the Germans, constitutes a supplementary loss which

is not less than 4,000,000,000 francs. And in this valuation of losses in personal property I do not mention (because I have not the precise figures) the numberless contributions of war and fines collected by the enemy, which amount in themselves to the millions.

Need I add that from these rich countries all agricultural resources have disappeared? The loss in animals—cows, horses, fowls, swine, goats—totals 1,500,000 heads; in agricultural implements, 450,000 machines or vehicles, worth under this single head 6,000,000 francs.

If I come to industry the disaster is still greater. It was the industrial heart of France, this region which the enemy occupied, whose entire stock of tools he has methodically destroyed or carried away. It was the soul of our production, as the following figures may convince you: In 1913 our invaded regions represented in French produce 94 per cent. for wool, 90 per cent. for linen spinning, 90 per cent. for iron ore, 83 per cent. for smelting, 70 per cent. for steel, 70 per cent. for sugar, 60 per cent. for cotton spinning, 55 per cent. for coal, 45 per cent. for electrical energy.

Of all these factories, machines, mines, nothing remains; the enemy has destroyed or carried all away, destruction so complete that if I take, for example, our great mines of the North, two years of work will be needed before one single ton of coal may be mined; ten years will be needed before the production can be brought back to the level of 1913. All these industries must be reconstructed, and for this reconstruction there will be required more than 2,000,000 tons of cast-iron, and almost 4,000,000 tons of steel, without speaking of the stocks to recreate and materials indispensable to the completion of factories during their first year of activity.

Taking account of these different elements, we have, for industry, a total of 25,000,000,000 francs.

In order to restore the lands, to reconstruct the factories, the bare materials will not suffice. Means of transportation are necessary. Now, the enemy has destroyed the rails of our railroads as well as the equipment. Our rolling-stock, diminished in the first month of the war, in 1914, by 50,000 cars, has since withstood the pressure of 50 months of war. Furthermore, our mercantile marine has lost through enemy attacks more than 1,000,000 tons. Our shipyards during four years have not constructed any vessels, because they have produced for ourselves, or for our Allies, cannon, munitions, tanks. Here, therefore, for the single matter of transportation facilities we must count on an expense of 2,500,000,000 francs.

Under these different headings there is presented a need for raw materials, the cost of which in the current prices in France is only slightly less than 50,000,000,000 francs.

In citing this formidable figure I have not counted the loss represented in the difference between what might have been produced normally and what will be produced, nor the loss represented in the transformation of so many factories engaged exclusively during four years in the manufacture of war materials. I have not counted the loss of foreign sales as a result of the destruction of a quarter of our productive capital and the almost complete arrest of our commerce. I have not added the diminution of output which the loss of almost 3,000,000 men, young and vigorous, of whom I spoke, will inflict upon us in the near future.

Never was a more formidable task imposed upon a nation than that which now confronts France. But this emergency France will meet. She recovered, with what rapidity you remember, from the disasters of 1871. She will still more rapidly recover from the ordeals that victory confers. It is on herself that she leans for this, and it is from herself that she will draw the necessary energies.

My country, I may say it without boasting, has proved during this war that to the virtues of warmth

and quick action, which the whole world recognized in her, she would associate tenacity, calmness and patience. During the fourth year of the war she doubled her taxes, when the enemy was within 80 kilometers of her capital. During 50 months of laborious efforts, in periods often critical, she never doubted victory or shirked her duties. She will be strong in peace by the same virtues, and will be able to draw from her national resources, increased by those of her colonial domains, whatever the reconstruction may demand.

But France, resolute to do by herself whatever depends upon her, thinks also that it is only just that, having been for so many months the principal field of battle for liberty and right, she should be aided in her effort, and she does herself the honor to put her confidence in the spirit of brotherhood of those of her Allies who have not known invasion. She feels that in expressing that confidence to them she expresses a justifiable hope. And as she knows, by four years of co-operation, their conscience and their fidelity, she knows that this just appeal will be understood by them.

We have need, first, of immediate help in manual labor. We hope that, pending the transportation of your troops, your technical units first, and your other units also, with their material, will be able to co-operate with us. We are going to have to perform a colossal task in transportation to rehabilitate the regions evacuated by the enemy. We shall have to restore the railroads of the north and of the east, and those of Alsace-Lorraine. We shall have to make the ruins which the German hordes have piled up there vanish from the reconquered soil. Your army will help us there, while our population raises its towns and its villages once more.

We need next, not for the entirety of our purchases, because an important part of these purchases will be made elsewhere than in the United States, but for whatever shall be bought in your country we need credits in dollars, which could represent about 50 per cent. of our total purchases for reconstruction. It is the assurance of financial assistance which will give to all France, Government and private enterprises, the courage and the confidence which will enable her to display in her reconstruction during peace the energy and spirit of undertaking which she has manifested so highly during the war.

We have equal need of raw materials and of machines useful for our agriculture, our industry, our means of communication, our railroads, all to be delivered with the briefest possible delay.

We are going to demand from Germany the restitution of the material taken from us which it will be possible for us to recover; but besides this restoration we must understand that rapidity of execution is a primary condition of the reconstruction of France, and that the United States, by its immense possibilities of production, must be our first aid.

We have an essential and immediate need upon which all else depends. We must have ships, chartered ships as well as those produced sailing under our standard, for the rapid reconstruction of the nation is closely subordinated to the rebirth of our merchant marine.

The colossal effort which the United States has made for the construction of its fleet, an effort accomplished in view of the war, will not be turned from its sacred end if, in part, it aids France to regain her peace-time strength on the seas, and thus restoring the loss of ocean transportation brought about by the war.

In these four subjects—manual labor, credit, raw materials, ships—I have revealed our needs in detail to your Administration, whose reception has touched me deeply, and I repeat here, for our condition is no longer a secret, what I have said to your Government and what I have asked of it.

I repeat it before you, representatives of the greatest newspapers of the world, because I desire that in your turn you may echo our demands. I present these demands publicly, because it is France's honor to have taken an immense part in the war, and in victory, and to be able to show her Allies at what cost she has paid for the results obtained.

Speaking to the United States, I know that I have nothing to add to these facts. It is enough, indeed, for you to know in order to determine. For more than a century our liberties and yours have grown fraternally, and behold! we offer together to an entire world the striking lesson of the victory of the democracies.

That this victory may be complete, France must take her place as quickly as possible in the peaceful competition of free peoples. That this victory may be complete we must rise from our ruins, and our rebuilt

country shall find in peace the compensation for what she has sacrificed in the war.

I never said that to you while we were fighting, because then it was to the war alone that, as you, we must consecrate ourselves, without restriction or reserve.

Today I tell you where we are; I tell you our wish to be born again; I tell you our needs and our wounds; I tell you what we want to do and what we shall do.

And I do not need to ask your answer; I know it, because I know you.

Iron and Steel Conditions in Birmingham District.

Birmingham, Ala., December 16—[Special.]—The allocating of further business for Japan, 18,000 tons of pig-iron, being placed in the Birmingham district was interesting information given out the first of the past week, together with the announcement that inquiry was being made into capacities of this section by other foreign countries, Italy in particular. There is promise of a number of bottoms being offered through Southern ports, and Alabama iron can be delivered at these ports with ease.

Domestic consumption promises to be good in the future. For instance, a number of cities are figuring on development of water and gas services which will mean the purchase of cast-iron pipe. But so far there is no intimation that any new business has been offered. Under normal conditions the cast-iron pipe producers are among the best customers in pig-iron. Soil pipe, fittings and other dealers, too, use considerable pig-iron, and there is no doubt that there will be need for a great deal of this production, as the building program for the near future is a brilliant one.

Pig-iron production in the South still shows no increase. The raw material supplies are a little better as the health conditions among the labor improves. The influenza epidemic is still on, but not as general as a few weeks ago. The coal production for the week ending December 7 amounted to 381,065 tons, as compared with 322,591 for the week ending November 31 and 358,693 tons for the week ending November 23. The ore production, too, took on considerable improvement recently.

Statistics indicate that the furnace output of this district for the present year will be more than 400,000 tons short of what it was in 1917. There will be less iron on the yards on the turn of the year than ever before, and that is one reason why there is such confidence being felt in the future of the market.

Foundries, machine shops, steel plants and industries of kindred nature in the Birmingham district are moving along smoothly and at a rapid pace. There are not only plenty of contracts in hand, it is given out, but further business can be assured.

The Birmingham district is greatly elated over the decision by William G. McAdoo, Director-General of the United States Railroad Administration, to add 24 steel barges and three steel towboats to the old equipment on the Warrior River. The Government will spend upwards of \$1,650,000 on the project, and will keep it in fine shape. At present the Government is operating the old barges of the De Bardeleben Coal Co., the Pratt Consolidated Coal Co. and the New Orleans & Alabama Transportation Co. It is announced that contracts for new barges will be let immediately in Washington. At present the old equipment is able to handle upwards of 250,000 tons of coal per annum on the river, but this will be materially increased when the new equipment has been delivered. Coal rates on the river have been announced, and other commodities will be passed on in the next few weeks. It is believed that taking over the development of the freight service on the Warrior River by the Government will mean much to the entire district. The municipal coal-loading plant at New Orleans, which will handle Alabama coal, is expected to be ready next March.

Development of the fertilizer plant of the Tennessee Coal, Iron & Railroad Co. is announced, the extension and improvements, to be completed some time next month, to materially increase production. This product is made from a high-grade furnace slag.

Cleaning up yards is about the extent of the business being done by the scrap iron and steel dealers in the Southern territory, that is, filling old contracts and buying in no more scrap than is absolutely necessary. There have been few cancellations of orders for scrap, and deliveries are yet quite numerous. Not until after the turn of the year is there any expectation that new levels will be sought or the business take on any activity whatever. The dealers feel certain there will have to

be purchases of scrap made, for there are contracts at foundries, machine shops and other plants using old material that will require considerable delivery.

Quotations for pig-iron and old material in the Birmingham district are given as follows:

PIG-IRON.

No. 2 foundry, \$34 f. o. b. furnaces, Birmingham as a basing point; differentials same as before; basic iron, \$35 f. o. b. furnaces; price-fixing until December 31, 1918.

OLD MATERIAL.

Old steel axles.....	\$30.00 to \$32.00
Old steel rails.....	21.00 to 25.00
Heavy melting steel.....	21.00 to 22.00
No. 1 R. R. wrought.....	23.00 to 24.00
No. 1 cast.....	23.00 to 24.00
Stove plate.....	18.00 to 20.00
Old car wheels.....	22.00 to 23.00
Old tram-car wheels.....	21.00 to 22.00
Machine-shop turnings.....	16.00 to 17.00
Cast-iron borings.....	16.00 to 17.00

Million Dollars' Worth of Pigs to Be Raised by Boys of Mississippi.

Jackson, Miss., December 12—[Special.]—Mississippi's Liberty Pig Club, the State's newest addition to its plans for increasing food production, is growing rapidly and by the first of the year will be large enough to guarantee the shipping of several hundred cars of porkers in the spring.

The Liberty Pig Club is the idea of C. A. Cobb, in charge of Boys' Club Work for the State. Through it a pig will be placed in the hands of every boy in the State able to care for it, and it will be fed under the supervision of the nearest county farm demonstration agent.

One week will be selected for the shipping of these pigs, and during that time one of the big markets will be kept busy handling strings of cars of Mississippi hogs.

Pure-bred pigs are being distributed among the white boys, and as far as possible among the negro youngsters who have joined the club, although grades are being used wherever the pure-breds cannot be had.

It is expected that about \$1,000,000 will be put into the pockets of the boys of the State through this plan, and something like 25,000 pigs added to the world's food supply.

The State increased its hog production almost 50 per cent. last year, and with this added impetus it is expected to make at least a further 25 per cent. increase in 1919.

One county, Yazoo, will ship \$200,000 worth of livestock this year, most of it hogs, and expects to run this total to \$1,000,000 within the next two years, which is merely an indication of the growth of the hog-raising industry in the State.

Government Plans for Restoring Disabled War Heroes.

Employers of labor are to have a most important part in the rehabilitation of 200,000 American men disabled in the war. According to a monograph, "What the Employers of America Can Do for the Disabled Soldier and Sailor," recently issued by the Federal Board for Vocational Education, the success of the Government's big program of dealing with the men who have borne the brunt of battle to a great extent depends upon the attitude and co-operation of the employer.

It is the intention of the Government to assist in replacing each man, regardless of his handicap, in suitable civil employment. Through the co-operation of the employers definite jobs will be made available. The training of each individual will be made thoroughly practical and pointed toward a specific occupation to which he may go when he is industrially fit.

The utmost care is to be taken that each man is trained for and placed in a job in which he can make good.

Courses of instruction in all agricultural, industrial, commercial and professional occupations are being provided under the jurisdiction of the Federal Board. The most reputable trade and vocational schools, colleges and other well-organized institutions will be utilized. In many cases the training will be given in the factory, shop or office in which the disabled man will be employed after he has finished his course of instruction and is competent to do the work.

All expenses of the course of training, the personal living expenses of the disabled men will be paid, and in the case of one who could not successfully follow an occupation without retraining, allowances will be paid to his dependents by the Federal Government.

Inquiries should be addressed to the Federal Board for Vocational Education, Washington, D. C.

Where and Why England Wins

AN ILLUMINATING STORY OF ENGLAND'S WAR WORK AND OF THE SPIRIT OF THE PEOPLE.

[Mr. C. W. Barron of the Wall Street Journal continues his exceedingly interesting and illuminating letters from Europe with a story of England's work and spirit in the war, which throws a great light upon what that country has achieved. From Mr. Barron's article we take the following.—Editor Manufacturers Record.]

Riding the Waves.

It was because England has "a life on the ocean wave" that she has been able to give to the French service now for more than four years 2,000,000 tons dead weight of British shipping, or double the total American owned tonnage of 1914, has had her ships transport 60 per cent. of the troops from the United States, and has been able to contribute 95 per cent. of the vessels that have hunted the submarine from the Mediterranean to the North Sea, and has sent to the bottom more than 100 of them since 1916.

Riding the Air.

And it was because she had a life in the field of sport that she was able to maintain the supremacy of the Allies in the air, notwithstanding Germany's concentrated situation. She built three armies of air men, the naval force, the army force and an independent air force. This independent force alone has averaged more than two air raids per night the past summer upon German territory, dropping nightly more than two tons of bombs.

The daily average of the three English air forces has been the destruction of nearly nine German machines.

In all theaters of activity, the daily average since July, 1917, has been more than 10 enemy aeroplanes destroyed, with an average daily loss of three English machines. This record has been made, not because of any existing war machinery, for in 1914 there were less than 100 Government airmen, but because before 1914 England had many private aviators and groups of flying men in the field of sport.

The winning of a war is in the characteristics of the people. No money or machinery, no organization or numbers will do it.

A Lion's Problem.

But no nation ever again can be called upon to face such a gigantic problem.

Germany threw the bulk of her fighting forces against the English lines. The thought of France was secondary when England really got into the war. It was London that was to be destroyed; it was England that was to be starved; the whole German navy and submarine and air warfare was against England. English prisoners were singled out for especial hatred from all classes in Germany.

But England never whined nor whimpered nor wasted a single energy of hate upon anybody. Before she could raise men she tore up her own railroads to hurl the tracks into France, where she built 2000 miles of track and furnished them with 1000 locomotives. She expanded her three arsenals to 150, and put 5000 factories under Government control.

Volunteer Men and Women.

The majority of England's soldiers were volunteers, and I have heard of no conscription for the women. But where England formerly had 250,000 women workers, mostly in textiles, she numbered this year 5,000,000, of whom more than 1,000,000 were in munitions, 500,000 in engineering and chemical works, 300,000 on farms, etc.

When they threatened England with starvation and potatoes sold shillings per pound, she tore up her front yards and flower gardens and parks, made 1,400,000 "allotments," and increased the potato crop 50 per cent., and quietly noted that that was just a saving in ocean tonnage. She had seen ocean shipping on which her life depends sunk by the enemy at the rate of 500,000 tons a month. But in August of this year she could see the world building 100,000 tons above ship sinkings and she could boast a ship put together from stem to stern by only her women workers.

England saw food prices double, but she did not hesitate to multiply her tax bill threefold, or from \$1,000,000,000 to \$3,250,000,000 per annum.

Footing the Bill.

When last March she started her new fiscal year and footed the war bill to date at £7,000,000,000, or \$35,-

000,000,000, she smiled as the slate showed 25 per cent. of the war bill met by direct taxation, and 21 per cent. of the expenditures representing loans to her allies and the Dominions. Truly, it is the true sport that fights and pays.

Outside they speak of the growl of the English lion and the grumble of the English man. No nation ever had such cause for both growling and grumbling, but this fact I have discovered in two visits to England—the more she fights and the more she pays, the less she growls, and the less the English man grumbles.

No Time to Spare.

England has no time either to grumble or be gay; no time for art or literature. Only the clerks and the khakis attend the theaters. There are no great plays, no stirring war dramas, no sublime poetry. In France they say "preserve the ruin, a land mark of war, our sacrifice and victory for future generations." England puts up a board fence and soon forgets where the bomb fell.

Deport All Enemy Aliens.

New Orleans, December 9, 1918.

Editor Manufacturers Record:

Permit me to thank you for your able editorial in the MANUFACTURERS RECORD of December 5 headed "The Only Way in Which the Stigma Attaching to the German Race Can Be Overcome." I endorse every word of that editorial, as I do and have done every one of your editorials on the subject of the war. Keep up the good work, and start right now a movement to bring about the deportation not only of the interned enemy aliens, but all those who have registered as such. There is no place in America for such "deep-dyed, black-hearted, lying scoundrels," as you so aptly call them.

The Rotary Club of New Orleans (of which I have the honor to be a member) has adopted resolutions on the subject of deporting alien enemies, copy of which I am enclosing, and which I trust you will find space in your valuable columns to publish.

Yours for America first, last and all the time.

R. M. HYAMS.

RESOLUTIONS OFFERED AND ADOPTED BY THE ROTARY CLUB OF NEW ORLEANS NOVEMBER 26, 1918.

Whereas, the United States Government has found it necessary to intern and to otherwise punish certain persons because of their treasonable utterances or violent acts directed against the Government of the United States or the Governments with which it is associated in the war against Germany and her allies; and

Whereas, the releasing of such persons after the war or after their term of punishment has been completed and allowing them to live among us would be a continuous danger to our Government and to our citizens: therefore, be it

Resolved, That this body goes on record as deploring the deportation of such persons when their term of punishment shall have been fulfilled, and suggest that they be deported to Germany and forever be forbidden entrance to the United States or to any of her possessions; and be it further

Resolved, That this resolution be spread upon the minutes of this Rotary Club and a copy be sent to the International Association of Rotary Clubs, Chicago, with a request that they forward a copy of same to all clubs affiliated in Rotary, requesting that they take similar action, and that each Rotary Club send a copy of this resolution to their Senators and Representatives in Congress and to the President of the United States requesting that Congress take action along these lines.

Lower Freight Rates Extended in Mississippi Valley.

New Orleans, La., December 10—[Special.]—Joint river and rail rates on the 80 per cent. basis of water transportation have been established between New Orleans and the upper end of the Mississippi Valley by Government announcement. When the Government started its lower Mississippi River barge line about three months ago it established freight rates 20 per cent. cheaper than rail rates, but they applied only between river towns, but there arose a demand that interior towns should also benefit on through bills of lading by the water-rate differential, so that there would be always sufficient traffic to maintain the barge line. This latest announcement is therefore taken to mean that the Government intends to re-establish river traffic on a substantial basis. The movement for the extended differential was strongly supported in New Orleans, St. Louis, Chicago and other points which will reap advantage from it.

Dr. Newell Dwight Hillis on European Conditions

PERSHING'S PLACE IN THE GALAXY OF HEROES—COMMENTS ON CLEMENCEAU AND LORD NORTHCLIFFE—GERMANY'S HERITAGE OF CRUELTY AND CRIME.

By REV. NEWELL DWIGHT HILLIS, D.D., LL.D., Brooklyn, N. Y.

The measure of a country's greatness is the number of heroes it has to celebrate, and the great commemoration days it can recall. England, France and Italy have nearly 2000 years of history behind them, and their national portrait gallery is both large and rich with the names and faces of statesmen, soldiers, painters, philosophers and poets. Our history is very brief, limited to 300 years, and our stock of heroes, therefore, is slender. In view of the fact that children look up to their noble parents, young artists to their great masters, young soldiers to their noble generals, every new and brilliant name added to our country's annals means a new driving force for the American people. The names of some of the stars that shine in our sky are called Lincoln and Washington, Webster and Franklin, and these names are like the stars, permanent, with a light that will not dim as the centuries come and go.

Just now the name of Pershing has risen like a new orb upon the horizon of France. The General sailed away from this country bearing a name that was honorable, but new, save in military circles. But now his name and fame fill all the earth. Last spring at a time when the German army, augmented by a million fresh troops released from the Russian front, struck the Allied lines, the British columns reeled and staggered back 30 miles in front of Amiens, while under the impact of the Hun shells that was like the stroke of an earthquake the French troops retreated to within 30 miles of Paris. In that critical hour for civilization Pershing wired Marshal Foch, placing his whole army and himself at the disposal of the commander-in-chief.

Later on, when the fate of France and England were trembling in the balance, Pershing reached an important decision. He insisted upon having an American army, with the American divisions fighting together, upon a designated battle line. Soon Pershing's troops were stationed at three dangerous and strategic points, one army fighting with the British at Cambrai, where they broke through the von Hindenburg line; another army at Chateau Thierry, where they broke the power of the Crown Prince's army and enforced the retreat that never stopped until the surrender; while the third army, under General Pershing himself, struck the army of Prince Ruprecht of Bavaria at Verdun and the St. Mihiel salient that recovered the Briey iron fields, cut off the sources from which Germany was deriving the steel for 80 per cent. of her munitions, and finally cut the trunk railways that carried supplies from Germany to the army on the western front. The victory in the Argonne Forest was the victory of Pershing, and was the Waterloo of this war.

Nothing reveals a man like his statements in hours of excitement, when the intellect is struck through and through with light, and the soul is at its best. In such an hour Pershing addressed his troops that had landed in France. Reported by a French newspaper man, who did not fully grasp Pershing's meaning, and translated from the French roughly again, Pershing's speech comes to this—in striking contrast to the Kaiser's charge bidding the Germans "take no prisoners and give no quarter":

"Soldiers, you are here in France to help expel an invading army. You are here also to protect life, to safeguard property, and to lift a shield above the poor and weak. You will be courteous to all women, gentle with all children. Fear God. Fight bravely. Defend liberty. Honor your native land. God have you in His keeping."

PERSHING.

Happy the soldiers commanded by such a general! You have only to print that speech upon a postal card and send it out as a campaign document, and it would win any election. Young men know a man when they see him. In the greatest war in history, at the greatest crisis of that war, at the most strategic and dangerous points of that terrible battle line, stood Pershing and his men, and the name of the commander and the fame of his soldiers are memorable forever, and will, like the stars, shine forever and ever.

Clemenceau, The Good Old Tiger.

Today Clemenceau is the idol of the hour in Paris and London. Chosen by the French Academy, Clemenceau and Foch drove through streets packed with applauding crowds to the hall where, in a simple and beautiful ceremony, they were welcomed to a place among the Immortals whom the world will not willingly let die. Going to London, the news that Clemenceau had arrived spread like wildfire. His procession was a kind of triumphal progress; all streets were packed by shouting multitudes. From the windows of the shops people called down "Good old Tiger! Bravo! Bravo!" But honors like these do not come unasked; they are won, and bought with oftentimes the heart's blood.

Now 77 years of age, Clemenceau has had a stormy and tumultuous career. All his life long he has lived in the thunder of political battle. He has been a tribune of the people. In every political campaign he has been a fighter, and has given blows and received them. For years he was one of the best hated men of his time. Often he was ahead of the people, and lost his leadership; perhaps, once or twice, he followed after the people, and so of necessity had no following. From the beginning he has had the courage of his own convictions.

Forty-eight years ago at Metz, where he was serving as one of the French delegates, Clemenceau refused to sign the document ceding Alsace and Lorraine to Germany. On that occasion he declared for the right of self-determination on the part of the Alsations. "Men cannot be bought as slaves in Africa, nor sold as serfs in Russia, nor delivered like cattle into the hands of Bismarck." In that hour Clemenceau raged like a lion and roared like a tiger. He ran every form of personal risk. For a time he lost all prestige, but never once did he flinch from his position.

When 48 years had come and gone, everything his associates had ceded to Germany Clemenceau saw returned France. Few men ever fought a battle and 48 years later entered into the fruits of the victory.

From the very beginning of this war, therefore, Clemenceau led the attack. As Prime Minister he joined as it were the War Cabinet. He went into the front trenches and worked with the poilu. He spent two or three days each week with Joffre at military headquarters, and later with Foch. He rode the line from Ypres to Verdun, without regard to snow of winter or fog and rain of summer. When the people of Paris thought everything was lost, Clemenceau climbed into his automobile and went wherever there was a crowd and harangued the multitude. He rebuked them for their fears, laughed at their discouragement, proclaimed his optimism, shouted out his certainty of coming victory. Like Miltiades, he flung his helmet into the thick of the enemy, and called on his men to follow him and recover the helmet again. Wherever Clemenceau was, there the fight was hottest.

Coming back from the front at Rheims this summer I rode into Paris, and Clemenceau's great auto had just arrived. The old Premier was covered with mud, his face was spattered with mud, he was weary, moved slowly, but in his eye the fires blazed. The next Saturday, through the kindness of Arsene Alexandre, I had an invitation from Rodin, the Minister of Fine Arts, to visit his studio. Two golden hours came and slipped away. If ever there was a creative sculptor, that man of genius was Rodin. One by one he pointed to those bronzes and marbles that are called his masterpieces, like "The Thinker" and "The Alderman of Calais." But last of all he turned his eyes toward his bust of Clemenceau. A huge mass of marble, rough, unpolished, with lineaments as majestic as those of Jupiter, but with the iron lips of Vulcan, and one could see that no matter what the great sculptor thought about his political differences with Clemenceau, that Rodin, who was so soon to die, had staked all his hopes for his beloved France upon two men, Foch and Clemenceau, the old Tiger of France.

Northcliffe, The Maker of Cabinets.

"Who is the real ruler of England, then?" I asked the English financier. The answer was as instant as a pistol shot, "Northcliffe is the most powerful man who has lived since Oliver Cromwell's day." That banker was not of Northcliffe's political party, but he said that he was ready to confess an undeniable fact. Today all men live under the government of an overruling Providence and the newspapers. And Northcliffe owns more newspapers than any man who lives or ever has lived. During more than 100 years the London Times has been the political New Testament of the ruling classes of Great Britain. In a cynical mood Punch once defined an English gentleman as a man who had a country house, drank port, belonged to the Established Church, had the gout and read the Times. But Northcliffe owns the Times, that alone furnishes verbatim reports of the speeches in the House of Commons and the House of Lords.

Northcliffe also owns the papers like the Daily Mail, published in different cities, London, Manchester, Paris, that is read by the common people, and therefore he controls the very fountain-head of news. It is said that he publishes some 60 papers, morning and evening, weeklies, semi-weeklies, monthlies, that reach not only the people in all the towns and cities in Great Britain and Ireland, but also of the empire. His correspondents and representatives are on every battlefield and in every world capital.

He is one of the few great editors who has traveled back and forth ceaselessly between the various battlefronts and his offices in London. On several occasions it is now believed, the news of a defeat or victory reached Northcliffe before it reached the War Cabinet.

It was Northcliffe that broke Asquith's hold because the great scholar and orator and Prime Minister procrastinated, and would not act by reason of extreme caution until the last fact was in, and with the result that Asquith was defeated, and now has no hope of ever coming back.

It was Northcliffe who opened his batteries on those who were carrying on the campaign in Gallipoli, where tens of thousands of the Anzacs are sleeping, when from the beginning the cause was lost.

It was Northcliffe who insisted upon the small War Cabinet, and forced the reorganization of the munition department, and placed Lloyd George at the head.

Beginning his career as a writer, Northcliffe brought to his desk the mental training received in the study of an English barrister, with his love of law and justice. Coming up to London to make his fortune, Northcliffe organized the first English newspaper syndicate. He was literally the architect of his own career.

Physically, he weighs about 170 pounds, has light brown hair, blue eyes, finely-carved nose and chin, and might be called a compact, splendidly-built man. Intellectually, he is a journalist of singular insight, has an intuitive knowledge of coming events, can tell what is going to happen long before it takes place, and to his analytic grasp of men and events he owes his leadership. To all his other gifts he adds those of tireless industry, courage that is often audacity, confidence in his own resources, and a boundless faith that you can trust the people once all the facts are spread out before them.

His critics now charge Northcliffe with a love of power, and insist that he is developing autocratic tendencies. These men talk about a rebellion against the power of the press. Just now Northcliffe is lifting the rod above Lloyd George and insisting upon the reorganization of his Cabinet. What thoughtful men expect, therefore, is that though Viscount Northcliffe is not one of the five men in the English Government, he will be one of the elect group chosen by Lloyd George to attend the Peace Conference in Paris. Having helped to win this war, Northcliffe plainly proposes to see that nothing is lost at the peace table that was won on the battlefield.

Germany Today 90 Per Cent. Tartar.

Two historians, Osborne and Gregory, have just passed in review their study of the origins of the German people. To the amazement of many students, these scholars have established the fact that 90 per cent. of the German people are of Tartar descent, while only 10 per cent. share with the English our Teuton blood. Long centuries ago a band of Tartars entered Prussia, just as the Huns and the Vandals in the fifth century crossed the Alps and devastated Italy. These Tartars killed nearly all of the Teuton stock, and when the

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December 19, 1918.]

Thirty Years War was over, only a little remnant of the Teutons survived, just as a remnant of the sheep after the wolves have had their way with the flock. Now, recent events in Russia, in connection with the atrocities of the Tartars, with the attempt to exterminate all the middle and the upper classes in Petrograd, are revelatory of the nature of the Tartar blood. It is a cruel type of mind, bloodthirsty and ferocious. In a very peculiar sense cruelty seems to pass through heredity from generation to generation. Witness that monster Caligula, whose mother was the cruel Agrippina. Witness that universal murderer, Charles the Ninth of France, with his massacre of St. Bartholomew. He was the son of that wicked empress Catherine de Medici, who filled her son's soul with hate and stimulated him to his bloodthirsty deeds. Mary Queen of Scots' cousin, Lord Darnley, murdered Rizzio on the staircase of the palace after a liaison had been entered into between Mary and Darnley, and their child was that wretched being, James the First.

The thistle multiplies rapidly through heredity, but the growth does not change the thistle into a rose. Many men think that growth will yet save Germany. But despite the cruelty of her 90 per cent. of Tartars. But given a small cancer, growth soon means a large cancer, and then a corpse. Given slavery, growth means a rebellion and civil war. Given avarice in the child, and growth means forgery and a burglar. Given 90 per cent. of the Tartars, and 25 years of teaching and growth as to the Prussian State, means 9,000,000 of latent and undeveloped thieves and criminals, who will burn Liege, loot the University of Louvain, pile up 300 dead bodies in front of a little church at Waudre, destroy 350,000 homes in France, poison wells, devastate vineyards and orchards. It could not be otherwise. Cruelty was in the Tartar blood. The fathers ate sour grapes; the children's teeth were set on edge.

Everything depends upon the beginning. Once a wolf, always a wolf. Once a wild, sour apple, short of a new graft always an apple that will be aciduous and bitter. The history of one degenerate family that lived six generations ago in a Hudson River town is strangely illuminating. One illegitimate and licentious woman, in 150 years, brought forth 700 descendants. Fifty-two per cent. of the females were harlots; 56 per cent. of the men were paupers; 214 of the women were in asylums for a longer or shorter time; 76 were convicted criminals; 150 were cursed with the two diseases that are the most terrible and debasing known to the medical profession.

Is the world becoming better or worse? The good people of the world are growing better, and the wicked people of the world are growing worse. Nothing vital can be stationary. In a moral universe every good institution is like a city set on a hill, that cannot be hid, while every Sodom and Gomorrah are doomed at the outset. Humanly speaking, the future of Germany is dark and almost without hope. But no one knows when an unseen Providence will send some man like Moses or Paul, Martin Luther or John Knox, into Germany to regenerate that people. The hope of Germany is not in the chemical laboratories or in submarines or regiments. The only hope there is for Germany is that "power in the world, not ourselves, that makes for righteousness," and is in a ceaseless war against cruelty, lies and every form of sin.

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Southern Pine Deliveries on Government Orders Aggregated More Than 2,600,000,000 Feet.

Reporting to Congress on its dealings with the lumber industry, the Council of National Defense makes the following reference to deliveries of Southern pine:

"The shipments on account of Government lumber requirements for the period July 1, 1917, to May 28, 1918, will be found to approximate 2,600,000,000 feet. This total does not include various small local purchases, nor does it take account of indirect Government contracts, such as munition boxes and other similar contracts requiring lumber. This enormous quantity of lumber, however, is not half the normal annual production of the 220 mills which comprise the Southern Pine Association.

Wants Washed Clay Suitable for Paper Trade.

J. W. GRANT, Secretary Higgins & Grant, Inc., 421 First Avenue, New York.

We are very much interested in taking over the sales agency for some mill which turns out a good grade of washed clay suitable for the paper trade.

Eighty-four Wooden Ships Delivered to Government.

Eighty-four wood ships had been completed and delivered to the Government up to October 31, 1918, according to a statement just issued at Washington by the information bureau of the United States Shipping Board.

Five hundred and eight keels for wood ships had been laid at that time, and 227 wood hulls had been launched.

"The soundness of wood ships has been demonstrated in operation," says the Board, "for all the troubles which have developed have been due to secondary causes, such as green lumber which was not sufficiently caulked and in certain cases lack of rudder power. This has been borne out in reports received from masters and chiefs of ships now in operation."

"Beginning August 1, 1918," it is added, "the Emergency Fleet Corporation in its wood-ship production has averaged at least one complete ready-for-service wood steamship per calendar day, and will increase this average, and in addition will shortly produce for sea service both barges and tugs."

Maryland Builders of Wooden Vessels Anticipate Era of Great Activity.

With the cessation of the war the Maryland and nearby shipyards engaged in the construction of wooden vessels look for an era of great activity. The operations of the small yards have been somewhat limited owing to the scarcity of labor and necessary building materials, coupled with the need for larger boats of wood and steel. Many of the plants have been working with but half the number of necessary men. The greatest difficulty was experienced in getting material for the ships, and proposed improvements and additions to plants and equipment had to be put aside.

In the Curtis Bay (Anne Arundel county) section the yards of the Arundel Shipbuilding Co. at Fairfield and Henry Smith & Sons Company at Curtis Bay have been seriously hampered by labor shortage. Work at both of these yards will speed up rapidly as new men are trained in the work. The Arundel yard has on the ways for local buyers two wooden barges of about 2000 tons dead weight capacity, and one of these is rapidly nearing completion. The yard has done a large amount of repair work on vessels of all types. The Smith yard has four vessels on the ways, and two of these are about ready for launching. A fire that destroyed the entire mold loft and auxiliary shops last winter seriously handicapped the work, but with clearing of labor problems and the assured supply of materials the boats will be rushed to completion.

M. Mitchell Davis & Sons Company of Solomon's Island has under construction a number of large tugs. The complete mechanical equipment of these tugs is being installed by H. E. Crook Company, Inc., of Baltimore, at the Locust Point yard of the company. The first tug arrived early in November, and seven others

of the same type will follow. The Progress, built by the Davis concern, was recently turned over to the Bethlehem Steel Corporation at Sparrows Point. The tugs of this type are 133 feet long and driven by triple-expansion engines developing 1100 horse-power.

The Eastern Shore Shipbuilding Corporation has eight tugs on the stocks, being built for the Emergency Fleet Corporation and the Navy Department. In addition, a wooden schooner of 2500 tons dead weight is being built for a New York concern, and will be launched shortly.

At the Smith & Terry Shipbuilding Co.'s yard at Bethel-on-the-Nanticoke two seagoing barges for the Emergency Fleet Corporation are being built. These vessels are 220 feet long, 38 feet beam and 19 feet deep, and have a carrying capacity of 2500 tons each. The plant has recently been improved by the erection of a new mold loft, 100x40 feet, and a new launching way, and the installation of four derricks.

The Cotton Movement.

In his report of December 13, Col. Henry G. Hester, secretary of the New Orleans Cotton Exchange, shows that the amount of cotton brought into sight during the 135 days of the season was 5,367,052 bales, a decrease under the same period last year of 1,220,497 bales. The exports were 1,567,140 bales, a decrease of 403,201 bales. The takings were, by Northern spinners, 855,535 bales, a decrease of 388,983 bales; by Southern spinners, 1,981,244 bales, a decrease of 388, Southern spinners, 1,981,244 bales, a decrease of 6710 bales.

Should Be Development of Native Potash Industry.

CHARLES A. DOREMUS, M.D., Ph.D., New York.

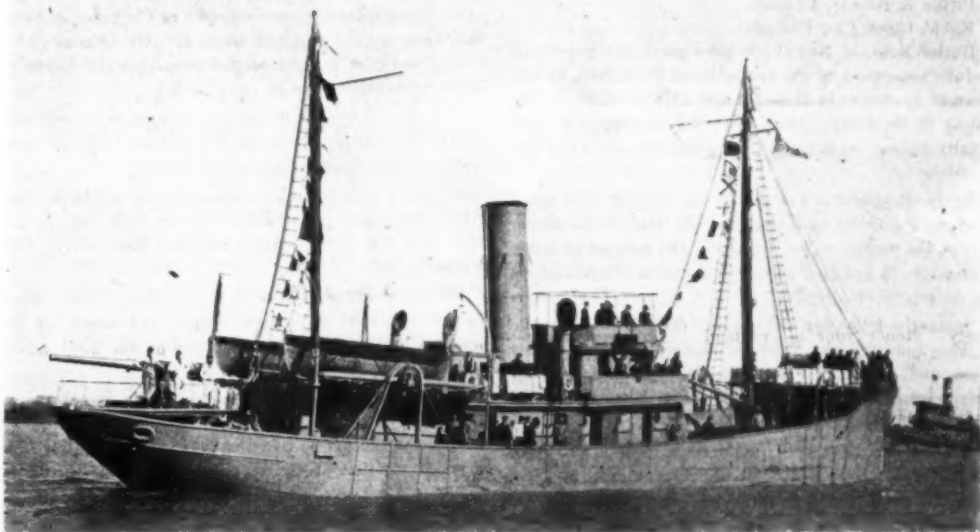
Your illuminating articles on the potash situation have greatly interested me. Having worked on the problem since 1910 and studied the question on a pre-war basis, I am still a firm believer that we shall, and not at too distant a day, have our own supply.

For the past two years financial questions have been a bar in great measure to this development. No one knew what to anticipate, and taxation was also an unknown factor. Since the collapse of the Central Powers the air has cleared, and I sincerely hope intelligent use will be made of our native resources in mineral wealth, in many cases so advantageously located, and our native chemical engineering talent to devise methods of permanent value.

Entirely in Accord as to Punishment of the Kaiser.

ALFRED C. BOSSOM, Architect, New York.—I read your publication with great interest, and I thoroughly admire the stand that you have taken. I am entirely in agreement with your views that the Kaiser and those criminally guilty with him should be brought to trial and punished in the same way as any less conspicuous character would be for a deed not one-millionth a part as frightful.

FIRST STEEL SHIP OF FLEET OF 38 BUILDING FOR FRENCH GOVERNMENT BY FOUNDATION COMPANY AT SAVANNAH, GA.



Steel ship the Bouvines, recently completed for the French Government at plant of Foundation Company, Savannah, Ga. Originally intended as mine sweeper, this ship, with 37 others of similar type under contract for the French Government, will be completed by the Foundation Company as fishing trawlers.

Shall Anyone Give Bloodstained German Toys to American Children? The Answer Is Up to You

[Issued by the AMERICAN DEFENSE SOCIETY, 44 East 23d Street, New York City.]

To Every American:

Even on November 2 in their retreat along the River Lys the Germany army used captive civilians—men, women and children—as living screens for their cowardly troops. They were used so effectively that Major Garrison of Lodi, Cal., says that "one American brigade was compelled to discontinue the use of its artillery."

And yet at this very moment nine out of ten importers of a huge consignment of German toys and crockery are endeavoring to market those goods in the United States. There came in on Thursday, October 24, 1918, from Holland, on the steamer New Amsterdam, 7000 cubic tons (4000 cases) of Hun toys and 3000 cases of Hun crockery for immediate sale in America. Virtually it is a shipload!

We have known all along that immediately after the war Germany would begin her great trade drive for commercial conquests in the United States, Central and South America. We know that craven, money-grabbing, pro-German merchants will do their utmost to sell Germany's goods for a share of their profits. We know that all the pro-Germans, pacifists, socialists and anarchists in America gladly will buy German goods in preference to American goods whenever they can save a few cents by the operation. There are some people in America, more's the pity, who always will put pennies above patriotism.

But there are limitations. In our most apprehensive moments we did not dream that anyone calling himself an American would have the nerve to import and attempt to market here any German goods actually during our war with Germany. And above and beyond all, never once did we dream that our War Trade Board would do any such thing as actually has been done, in permitting the importation of these blood-stained toys and crockery, while 2,000,000 of our men were fiercely battling with the beastly Huns.

Truly, we live and learn!

These German goods have come in! Our Government has permitted their entry! And all of the owners of them except Butler Bros. are now seeking retail dealers who will offer the goods for sale.

Louis Wolf & Co., 221 Fourth avenue, New York.
Strobel & Wilkin Co., 61 W. 23d street, New York.
Carl Silverman, 48 E. 13th street, New York.
L. Straus & Son, 42 Warren street, New York.
Pitkin & Brooks, Chicago.
Kuehl Clock Co., Chicago.
William Schoenemann & Son, 8 Strawberry street, Philadelphia.

Solomon Tannhauser, 19 N. 4th street, Philadelphia.
W. Van Doren, Philadelphia.

All the above stick to their goods and intend to market them. The names of the importers of German china, all of whom propose to offer these goods for sale, are:

L. Straus & Son, 42 Warren street, New York.
Strauss Bros. & Co., New York.
Pitkin & Brooks, Chicago.
Kuehl Clock Co., Chicago.

Butler Bros. of New York have patriotically refused to take possession of the goods thrust upon them by the German exporters in Holland, and have left them in the hands of the Government! We salute them for their loyalty to our soldiers and our children, and for their sacrifices.

Sears, Roebuck & Co. stated they would offer these German goods for sale provided the Red Cross would accept the profits. The Red Cross has refused to allow themselves to act as a screen to distribute German toys to American children.

Instantly following the arrival of this colossal pile of Hun industry, the patriotic men and women of New York and throughout the country rose in arms; but they were confronted by the fact that the objectionable goods had already come in.

These goods have been produced by people who have slaughtered, in France and Belgium alone, at least 100,000 innocent and helpless women, children and old men in most brutal fashion. Yes, and the "soldiers" who were the sons and brothers of these toy-makers cut off the hands and feet from many little children, some of whom quickly bled to death, and were afterward

found dead by allied soldiers. And the Huns have driven at least 200,000 women, girls and men into slavery in Germany or in trenches along the battle lines, often under fire! And they have bombed hospitals and shelled to death people in lifeboats right down to the last week of October, 1918, and in the first week of November.

Even while the cowardly and thoroughly beaten Huns are squealing for "peace," their barbarities have been going right on! Recently their specialty has been bombing hospitals, and firing upon stretcher-bearers, ambulances and wounded men. And here is a shipload of their toys and crockery to be sold to the mothers, wives and children of our 2,000,000 American soldiers who are today shedding their blood in battle with the armies of "the German people" who made these toys. Our men say that the Hun soldiers represent "the German people." And our men know.

What do you think of this situation?

Will you stand for it?

Up to this time the President and our Government have called upon the American people for sacrifices many and large. Our sons and brothers have been called to the colors in enormous masses, and they have gone, and they have been given up, willingly and gladly. Money has been called for again and again, and yet again, in sums hitherto undreamed of. In fine, there is nothing that the American people have not done in supporting the Government and helping to prosecute the war to a victorious finish.

Thus far the people have asked nothing in return! They have just given, and done, and sacrificed, silently and cheerfully, and the end is not yet.

And now here comes an enterprise—such as hundreds of thousands of American men and women have already given notice in writing that they will not stand for!

We now know positively that there are millions of Americans to whom German goods would be such ghastly reminders of German atrocities that they will have none of them at any price, at any time. The source is unbearably loathsome and repulsive. Millions of serious-minded Americans now despise even if they do not hate Germany; they deliberately intend to boycott all German goods as long as they live, and no power on earth ever can stop them from doing so! "The German people" may set up all the false "democracies" they please, but they never again will fool the American people into forgiveness and friendliness.

And more than this:

The issue is now squarely joined. We call upon all members of every patriotic society and on the American Defense Society, the American Guardian Society, the American Relief Legion and upon each patriotic American to consider this matter and decide what they are going to do about it. This is a peculiar case. It is particularly up to the individual to decide what steps he will take to ward off trade with Germany.

Will you appeal to your member of Congress, in your own way, against any and all trade with Germany?

Will you give your views and intentions full publicity in the newspapers and in circulars?

Will you form committees of women who will ask all the merchants of your city or town to hang up signs reading, "No German goods sold here?"

Will you so help in this fight against the Huns that when our soldiers come home you can look them in the face and tell them what you have done about this matter?

We have already appealed to the War Trade Board to see to it that no further permits are issued for the importation of German goods pending the final settlement of our account with Germany.

Already we have urged this matter on the attention of certain patriotic senators and members of Congress, asking that action be taken at once, but all that is only a small fraction of the representations that should be made to Congress.

We have not needed to appeal to the press, for the press has been in the fight with us from the first moment.

We ask every individual American to do something.

now, to influence our Government on the right side. The man in the street has earned the right to speak and to be heard. This is no time for bashfulness, timidity or self-depreciation. Speak out. Say what you think, and what you demand! And keep on saying it until you get it.

For the AMERICAN DEFENSE SOCIETY,

R. M. HURD, Chairman Boycott Committee.
ELISABETH MARRURY, Pres. Women's Nat'l Com.

For the AMERICAN GUARDIAN SOCIETY,

WILLIAM T. HORSADAY, President.

THE OATH.

I will not drink from a German cup
Or eat from a German plate.
I will not deal with a German man
All foul with German hate.

I'll use no drug with a German name
That's grown on German land.
I'll eat no food and drink no beer
If made by a German hand.

I will not use a German tool,
Razor, or knife, or saw.
I will not trade with a German shop
That lives by the German law.

I will not sail on a German ship
Where German songs are sung.
I will not breathe where God's clean air
Is soiled by a German tongue.

I'll not forget those awful deeds
To girls and little boys.
No more I'll hang on Christmas trees
Those blood-stained German toys.

I will not take a German's word;
He'll break it if he can.
There is no love in a German heart
Or faith in a German man.

This is my oath; when war is done
I'll swear to keep it true.
And since I know you feel the same,
I'll pass it on to you.

—KENNETH GRAHAM DUFFIELD.

LEST WE FORGET.

The Work of German Toymakers in France.

An official record of things done by Hun soldiers at Gerbeville, near Nancy, Northern France, in 1914, just before the first great German defeat and retreat, as testified by a nun of the Hospice, Sister Julie. Here is an exact translation of her signed testimony, now in the hands of the French Government:

1. Is it true that Eugénie Perrin, having requested the Germans to be more polite, had her clothes outraged with petroleum and set on fire?

Absolutely true. Eugénie Perrin, having recalled the Germans to a little more dignity and respect, was immediately arrested, maltreated, subjected to the last outrages, covered with petroleum and burned alive.

2. Is it true that a man named Francois was tortured before his death by having a revolver pointed at several vital parts of his body and was ultimately dispatched by an officer?

The Germans took the man so named (Francois) at his house, and before the door of the house, and said to him: "We are going to kill you, where would you like us to shoot you?" They then put the revolver to his head, his ear, his mouth, and the officer then dispatched him with a blow on the head.

3. Is it true that an epileptic was hung, that his wife cut him down, and that the Germans threw petroleum over him and burned him alive?

Yes. Before his mother (and not his wife, as in the question) the epileptic, a young man, was burned to death before his poor mother. His name was Linguet.

4. Is it true that a young girl named Pigaud, in order to escape the Germans, hid for three days in the river?

Yes, entirely true; but the young girl who hid in the river was named Jeanne Durand. Formerly with very good health, since the horrors of those mortal hours passed in the water she has always been ill.

5. Is it true that a young girl who carried the Red Cross brassard was shot and they shot at least 15 old men?

There has not been a question of a young girl who wore the Red Cross brassard and was shot. It is true that they have shot more than 15 old men and a young

December 19, 1918.]

man of 10, whom they killed before his mother—he was her only child.

Yet another terrible act committed by these Boche handits:

Entering a bakery they took the baker, who was baking his bread, and threw him alive into the oven; the remains were found in the oven, also the buttons of his trousers. It is horrible, but it is thus that these Germans make war.

Another instance:

They found in a garden a man named Barthelemy, 60 years of age, with a bayonet forced up to the hilt into his right eye, thus pinning him down to the ground. How many other crimes are there which remain unknown to the world? But the facts here given, which are the real truth, are sufficient to show the manner in which the German soldiers have conducted themselves in their invasion of our unhappy country.

The hour of justice and reparation approaches.

Sister Julie entirely approves the information which I give you above in her name.

(Signed) V. ROUBINIA, Secretary.

Attitude Toward Germans Which Men of "Breadth" Have Assumed.

Greenville, S. C., November 23.

Editor *Manufacturers Record*:

It is with particular and long-restrained admiration that I have read the editorials and articles of your paper. When you arraigned the pulpit for unfaithfulness in this moral and spiritual crisis I demurred, but when I reflected and recollected I was compelled to assent. I recalled how I had heard very few sermons upon justice. As a member of some of the most notable theological circles, I remembered that these eminent advisers of the public conscience, by an overwhelming majority, were pacifists in law and politics, and deplored the severities of the Bible and the punishment decreed by the courts. I know that most of the eloquent preachers, upon the declaration of war, enhanced their fame and popularity in our cultured academic circles by proving that "the brute arbitrament of war" was past and that no situation was so bad that conciliation would not relieve the difficulty. Men had changed. Human nature, under the power of enlightenment and a national social science, had been revolutionized, and the German people themselves were the fit leaders of this magnificent advance.

Just before that declaration I heard eminent men discuss the feasibility of democratic institutions and compare the excellence of German political and municipal management with the admitted corruption and incompetence of the government of American cities and rest their case with that exhibit.

I knew that men of equal capacity and knowledge were not as acceptable to churches as these men of breadth and advanced ideas. They were the pulpit laureates of the schools and carried the stamp of the latest speculation, read the latest books, lectured in cultural societies. They had breadth and were aware of it. To be broad was a mark of intellect and a sign of grace. Breadth was promoted. To be broad required neither learning nor diligence, nor power of strenuous thought. It defined an attitude of mind, a clairvoyance of understanding inaccessible by the rude methods of research and common logic. The man who was broad had the talisman of genius and progress. They divined the gentle, neighborly German heart behind the imperialistic establishment and social subjection. Was not Germany socialistic and devoted to the brotherhood of man? And they gloried and exulted in their breadth, and they exalted it and made it a cult, and they prized it and embellished it as a distinction, and they made it the medal of a meritorious order and pinned it on their breasts—albeit, it turns out to be the order of the Red Eagle of Prussia.

There are Americans who are entitled to the insignia and others coming forward with the doctrine of a "healing peace" to whom it would be ungracious to deny the distinction. They demand a healing peace for wounded Germany, but France and Belgium and Britain and Serbia and Armenia can get along without it. In the very phrase of the street, "they have gotten theirs." The dead and maimed and bereaved and outraged are all facts accomplished. Mankind cannot restore or reverse these losses, therefore wisdom charges them off and the world must begin over again with a clean sheet. Hence, forgive Germany and let the dew of Heaven do what the sword of justice declines. If the German is perverse, let us try again the balm of forbearance which

we applied when he sent down the Lusitania (with due and proper advertisement) and plunged women and babies into the Irish Sea.

Somehow we remember the woman in the open boat who dropped her dead baby overboard. Of course, we are not revengeful, but somehow it gets into the blood—well, anyhow, we finally got into the war, after all. But one ought not to remember such things. They disturb a "dispassionate" judgment! They promote a spirit of retaliation. Tolstoi forbid!

How can we transform Germany and weave her into our buccaneer family of nations if we keep on "throwing up these old grievances at her?" Man, there are Christians in Germany. Just now their professions are under a cloud, indeed, on account of some "inconvenience" and "indiscretion" anent Belgians, but cheer them in their despondency, give them something to hope for, reason with them, restore their economic privileges and in a few years and by a change of government they will sadly say:

"We were wrong when we raped and mutilated Belgians and French. It isn't right to do that way with inferior races. It is worse than a crime. It is a blunder. We should have shot them all as franc-tireurs. But the best of people make mistakes. Maybe it would have been better to have killed them all off with gas. But you see we had to grant our brave soldiers some relaxation in their arduous service. You can see that our task was not so simple as you seem to think. But we meant well. We were internationalists, too. We intended when the travail of the new German world was over to set up a 'Made in Germany' millennium of order and authority and peace. We aimed at the same thing you advocated—an end of wars, universal peace, world brotherhood—only we went about it in another way, and, being German, we knew that our culture and discipline were the best things for all men."

"But your barbarous American soldiers would have none of it, and, contrary to our approved military tactics, took particular aim at German sons and brothers and shot them down as the mere schweinherd of Dinant and Louvain, and ran right on the Prussian Guard, men of our best families, and laughed when they bayoneted men of the highest culture and discipline. History will never believe such barbarity, or believing will not excuse it. We who have taught the world that 'history is a science' will take care of that. And when your students come back to Leipsic and Heidelberg and Berlin they will not get their Ph.D. until they can write a thesis on 'The Fiction of National Morals.' We'll teach them that there is some art as well as much science in the writing of history, which Matthew Arnold described as 'a Mississippi of misrepresentations.'"

Well! I have gotten myself into a fine situation! Here I started out to write you a simple tribute of consent and admiration for the articles and editorials of your paper, and I have run on and got tangled up in German arguments and prospects until I have changed my mind, and I can now see how a refined, soundly cultured, profoundly discriminating devotee of the New York Nation can be tempted to get up with a warm heart for all men and go out and find some man, like myself, of Teutonic extraction, and extend a glad hand to him—and pull the trigger!

B. D. HAHN.

[Rev. B. D. Hahn, D.D., is the pastor of the Pendleton Street Baptist Church of Greenville, S. C. He is reputed to be a very well-informed scholar. He has a son in the service overseas.—Editor MANUFACTURERS RECORD.]

FIGHTING THE BOLLWORM IN MEXICO.

Expert Busch Recommends Stopping Cotton Growing in Laguna District for Two or Three Years.

Torreón, Mexico, December 14.—[Special.]—August Busch, who was sent to the Laguna district of Mexico recently by the United States Department of Agriculture at the request of the Mexican Government to investigate the pink bollworm situation, has just made a report of his work to the department of fomento in the City of Mexico. The Laguna district, of which Torreón is the marketing and industrial center, is the principal cotton-growing region of Mexico. Mr. Busch's report says, in part:

"The area of Laguna cotton culture in 1918 was approximately 225,000 acres. There was, besides, some 7500 acres in wheat and other crops. These 225,000 acres produced 100,000 bales of cotton, which at the present price represents 25,000,000 pesos, or about \$12-

500,000 gold. Without the pink bollworm this area would have produced 23,000,000 pesos, an actual loss of 8,000,000 pesos, or \$4,000,000 gold, due to the presence of the pest.

"In 1917 there were 175,000 acres cultivated in cotton, producing 65,000 bales, worth at present prices 16,250,000 pesos, or \$8,125,000 gold, and the loss from the pink bollworm on a conservative estimate of 25 per cent. was 5,000,000 bales.

"For the crop next year there are at present only 40,000 acres available, due to the failure of the Naces River, aside from such second-year plants of cotton which may develop, and probably not more than 20,000 to 30,000 bales can be produced, worth at the present prices 5,000,000 to 6,000,000 pesos. With even this small harvest, the loss from the pink bollworm will amount to between 1,000,000 and 2,000,000 pesos.

"This constant annual loss of from 2,000,000 to 8,000,000 pesos, or \$1,000,000 to \$4,000,000 gold, is a serious lessening of the potential production of the Laguna district and from a purely business standpoint it would be good economics to abolish cotton for two years, even at a total loss of income during these years, in order to have the full potential production restored again in future years. The abolition of cotton for two or three years, however, would not mean a total loss during these years; other agricultural products would take the place of cotton, even if they could not pay quite as much profit as would cotton. Two hundred thousand acres planted in wheat should produce at the minimum 15 bushels to the acre, or 3,000,000 bushels, which, at two and one-half pesos per bushel (present prices), would produce 7,500,000 pesos.

"Maize in the same area would similarly produce 8,000,000 to 18,000,000 pesos annually.

"An average annual difference in profits between cotton and corn and wheat would therefore probably be only between 2,000,000 and 8,000,000 pesos. This loss in profits, however, can at the present time hardly be borne by the agriculturists of the Laguna district alone without risks of failure.

"But the Laguna district is properly considered an asset to the whole of Mexico; the whole republic suffers annually a lessening of from 2,000,000 to 8,000,000 pesos in its potential wealth. Hence it would seem sound economics for the Federal Government to pay, at least in part, for the stopping of this leak in the national resources. The republic, moreover, does not merely suffer from the local losses of the Laguna crop by the presence of the pink bollworm. Due to its presence and to the constant danger of its spread, the United States has been forced, in order to protect its own vast cotton interest, to establish a strict quarantine along the Mexican border, which interferes with the entire exports of whatever kind from Mexico. All freight cars are necessarily held up at the border from one to two days for inspection and fumigation, and the entire commercial intercourse between the two republics is seriously hampered. Aside from this, all suspected cars must be fumigated, at a cost of \$10 gold per car, an expense which naturally falls on the exporter. More serious even than this considerable daily loss is the danger, as long as the pink bollworm exists in the Laguna district, that other cotton-producing regions of Mexico may become infested with the pest. Many areas in the State of Nuevo Leon, especially in Northern Tamaulipas, are cotton producing, and will in future years be even more so. These are at present free from pink bollworm infestation, and should be protected from this pest, which, if permitted to exist in the Laguna district, eventually must find its way to these other cotton areas, in spite of all possible control measures. This holds, of course, for the most important of Mexico's cotton areas, Lower California, which potentially far exceeds the Laguna district.

"Considering these several reasons, the present large annual losses and the constant menace of far greater losses, I beg respectfully to suggest, on purely economic grounds, as a good business investment, the urgent advisability of a Federal law prohibiting the growing of cotton in the Laguna district and other infested areas for two years, with a possible third year added if, in the opinion of your scientific experts, this is required, and the compensation by the Federal Government to the planters of the Laguna district of the difference in profits which they will suffer from such a law by being forced to plant some less profitable crop. Such Federal measures would indeed seem obligatory not only to the present economic advantages to the country, but from the duty to future generations to preserve the country's resources."

Government's Long Secret Operations at Fort Worth Described as Development of Balloon Gas.

Fort Worth, Tex., Dec. 12.—[Special.]—An official statement issued by the Navy Department lifts the ban of secrecy from the experiments which the Government during the last several months has been conducting here in extracting a product from natural gas. It is announced that an ingredient called argon is obtained from the gas that comes from the Petrolia field, and that so far as known it is the only field in this country containing the product. Argon is an "inert, non-inflammable element that may be used in the inflation of balloons in place of the inflammable hydro-gas."

The Navy Department has begun the construction of a plant for extracting argon from natural gas in the suburb of North Fort Worth. The proposed plant will cost about \$900,000. An official announcement, given out at Washington, says:

"The natural gas which is to be processed for argon is the effluent of the wells at Petrolia, owned by the Lone Star Gas Co., 95 miles north of Fort Worth. The project will thus entail the construction of a ten-inch underground steel pipe of this length. The pressure of 300 pounds per square inch, which will be required to insure the passage of the desired quantity of gas through the pipe line, will be furnished by the present compressor station of the Lone Star Gas Co. at Petrolia gas field. The materials for the pipe line have been purchased by the Navy Department at a cost of \$1,050,000, the 7750 tons of pipe required being allocated by the War Industries Board with several manufacturers. The line is being laid under contract with the Bureau of Yards and Docks for about \$500,000.

"High-proof gasoline to the extent of about five gallons per 1000 cubic feet is removed from the gas at Petrolia by the Lone Star Company. After the natural gas has been processed by the Government at North Fort Worth for its content of about 1 per cent. argon, by agreement with the Lone Star Company it is to be discharged into the city mains at Fort Worth and Dallas.

"The plant was not built over the wells at Petrolia for economic reasons. If Petrolia had been chosen as the site, it would have been necessary to conduct power and water a considerable distance, and to contend with poor labor and transportation facilities, which would have involved a greater expense than that of piping of the gas. Since North Fort Worth is the nearest point to the wells at which the necessary utilities are available, the site was chosen adjacent to the measuring station of the Lone Star Gas Co. and the Government experimental plant at North Fort Worth. The major part of the equipment of the plant has been purchased by the Bureau of Steam Engineering, to be installed by the Bureau of Docks and Yards. Special equipment has been designed and is to be made and installed by contract. The buildings comprising the plant have been designed by the Bureau of Yards and Docks.

"Besides the general contract, including compressor building, separator building, offices and laboratory, storehouses, lime storage, installation of transformers purchased by the Government, stringing of power lines, railroad siding, piping, installation of machinery, roads, fence, etc., the Bureau of Roads and Docks will award additional contracts for a carbon dioxide removal system and gas holders, two wells and a cooling pond. The cost of the buildings and appurtenances is estimated at \$900,000.

"The argon recovered at the plant will be compressed into cylinders for shipment. It is expected that the plant will be in complete operation by April 1, 1919."

Believes Government Cannot Be Removed in Part from Washington.

Haliburton Hall,

Clarkston, Ga., December 7.

Editor Manufacturers Record:

Under our Constitution today our Government, in the spirit and letter of the inspired authors of the Constitution, is without the executive branch of said Government and, therefore, cannot function as intended. One would hardly believe this to be true, but true it is—facts are facts.

In the "Articles of Confederation," signed July 9, 1778, in the third year of the independence of America, we find in the ninth article, "The Congress of the United States shall have power to adjourn to any time

within the year, and to any place within the United States, so that no period of adjournment be for a longer duration than a space of six months, and shall publish the journal of their proceedings monthly," etc.

Nine years after, on the 17th day of September, 1787, we find the inspired men of God writing as follows:

"We, the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquility, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America."

Article 1, Section 8: "The Congress shall have power to exercise exclusive legislation in all cases whatsoever, over such district (not exceeding 10 miles square) as may by cession of particular States and the acceptance of Congress become the seat of Government of the United States," etc.

So there is no more adjourning "to any place within the United States," Europe or anywhere else.

Maryland passed an act on the 23d day of December, 1788, entitled, "An Act to Cede to Congress a District of Ten Miles Square in this State for the Seat of Government of the United States;" the State of Virginia passed an Act on the 3d day of December, 1789, entitled "An Act for the Cession of Sixteen Square Miles or any lesser quantity or territory within this State to the United States, in Congress Assembled, for the Permanent Seat of the General Government;" the Congress of the United States, by an Act passed the 16th day of July, 1790, and entitled, "An Act for Establishing the Temporary and Permanent Seat of the Government of the United States," accepted the District for the "permanent seat of the Government of the United States," and President George Washington in a Proclamation, March 30, 1791, said: "The territory so to be located, defined and limited shall be the whole territory accepted by the said Acts of Congress as the District for the permanent seat of the Government of the United States."

Under Article 6 of the Constitution we find these words: "This Constitution and the Laws of the United States which shall be made in pursuance thereof, and all treaties made, or which shall be made, under the authority of the United States shall be the Supreme Law of the Land."

No intelligent man will say that we can move the executive, legislative and judicial branches of our Government to an embassy somewhere in Europe or anywhere else, and if we cannot move the whole Government we cannot move a part of it. President Wilson abandoned the Government and left the Continent. Therefore, there is nothing left for the people's Congress to do but perform a plain duty: declare the office vacant at once and have the Vice-President take the oath of office.

I would commend to all Washington the reading and studying of our Constitution, the Federalist, and George Washington and Andrew Johnson's State papers. These two Presidents piloted our nation through her darkest days of reconstruction. President Johnson never taught school a day in his life, nor went to school a day in his life, but was one of our best Presidents.

President John Adams, whose life was woven into the Declaration of Independence, the Articles of Confederation and the Constitution of the United States, said in his fourth annual address, November 22, 1800: "Immediately after the adjournment of Congress at their last session in Philadelphia, I gave directions, in compliance with the laws, for the removal of the public offices, records and property. The directions have been executed, and the public officers have since resided and conducted the ordinary business of the Government in this place. I congratulate the people of the United States on the assembling of Congress at the permanent seat of their Government (as specified in Article 1, Section 8 of the Constitution), and I congratulate you gentlemen on the prospects of a residence not to be changed.

"May this territory be the residence of virtue and happiness! In this city may that piety and virtue, that wisdom and magnanimity, that constancy and self-government which adorned the great character whose name it bears be forever held in veneration. Here and throughout our country may simple manners, pure words and true religion flourish forever."

In the address of the Senate to President John Adams on November 25, 1800, we read: "Impressed

with the important truth that the hearts of rulers and people are in the hand of the Almighty, the Senate of the United States most cordially join in your invocations for appropriate blessings upon the Government and people of this Union.

"While we congratulate ourselves on the convening of the legislature at the permanent seat of Government," etc.

The inspired agreement, signed by the Fathers, was a confederation and perpetual union between the States and cannot become archaic any more than life itself.

One who says the Government seat (or a part of it) can be moved from the District (it is idiotic to talk about a part of it being moved) without an Act of Congress may as well say:

"Heat contracts," "water runs uphill," "sow sand and reap wheat," etc.

For 118 years and more no President ever thought of conducting official business away from the Government. He could not, for it would not be Government business. W. E. WIMPT.

Government Control of Railroads Strongly Opposed.

CHAS. W. HOWARD, Chattanooga, Tenn.

Mr. McAdoo's statement that to continue Government control of railways until January 1, 1924, "would take the railway question out of politics" reminds me of the Irishman who, on finding himself in jail, sent out for a lawyer. After Pat explained the cause and effect, his lawyer said: "Why, Pat, they can't put you in jail for that." Pat replied: "Well, well, well, don't that hate you; but damn it, man, I am here!"

Railways, under private ownership, were not in politics to any such extent as they will be until they are returned to those whose faith in the institutions of this country made them possible.

Mr. McAdoo's thoughtfulness as to legislating the "old wasteful competition" out of Railways would be impressive if he could explain the withdrawals from the "revolving fund" on some other ground than deficits, and in the face, too, of such rate advances as would have brought on bloody riot if attempted by the owners.

As for the "composure" he speaks of, if you can imagine a man sitting on a ton of T. N. T., under a rapidly developing explosion, in a calm and peaceful frame of mind, you can with a never-failing optimism see business composure and faith in Government railway control.

Since the formation of the Government we, the people, have had control of our rivers and harbors, and what have we accomplished, save wasting a few hundred millions of dollars? If Harriman or Hill could have become owners of the Mississippi or the Ohio rivers in their time, do you suppose we would just now, with a great blare of trumpets, greet the advent of a dinky little towboat and a few barges (all by the way of experiment) on the great Mississippi River? Either one of these men, yes, any one of a thousand men we know of, owning or controlling either one of these great natural highways of traffic, would have had them developed to the nth degree. Can't you see it plainly, just how they would have these rivers working? Banks stable and beautified; landings worked out to the highest point of efficiency; river craft that would rival in beauty and efficiency our splendid passenger trains; giant towboats handling tows of farm, forest, mine and mill products that would equal in tonnage that of a dozen or more freight trains. This transportation asset was there when the Constitution was formed. To the everlasting shame of the politician, it is still there, and in about the same natural condition now as then, and it is to this body that Mr. McAdoo advises us to place our transportation lines, transfer to this short-sighted aggregation the life work of empire builders and the inviolable property of hundreds of thousands of stockholders, whose one crime was that they believed in the country their money developed. It takes something more than optimism to see good come out of this.

Five years of operation such as that of the last nine or ten months and the railway systems of the United States will have saddled on them an interest-bearing debt that will not only force the present high carrying charge, but necessitate heavy increases.

A reorganization and enlarged Interstate Commerce Commission, with abolishment of State railway commissions, will give to the public better service and cheaper service and a more obliging service than can be secured by any other known or untried method.

Good Roads and Streets

Bonds Voted.

Ala. Tex.—Fisher county voted \$10,000 bonds to construct roads.

Sherman, Tex.—City voted \$50,000 bonds for road construction.

Contracts Awarded.

Ala. Tex.—Travis county awarded contracts for 14 miles of road grading and graveling.

Ala. Tex.—Wise county awarded \$208,000 contract to gravel 41.5 miles of highway.

Ala. Okla.—City let \$108,000 contract for street improvement.

Ala. W. Va.—Mingo county awarded contract to construct 8 miles of earth road costing \$70,000.

Contracts to Be Awarded.

Ala. Pierce, Fla.—St. Lucie county invites bids until December 21 to construct 4 miles of road.

Ala. W. Va.—Taylor county has approval of State Road Commission for road improvements costing \$27,754.

Ala. Houston, Tex.—Harris county invites bids for road improvements costing \$60,000.

Ala. Head, Md.—Navy Department will pave county road, expending \$80,000.

Ala. Hecenny, Fla.—Baker county will improve road for \$75,000 bond issue has been authorized.

Ala. Petersburg, W. Va.—Wood county contemplates 6 miles of concrete road paving.

Ala. Taylor, W. Va.—Jackson county invites bids until March 1 to construct 1 mile of concrete road.

Ala. Walnut Ridge, Ark.—Lawrence county has preliminary plans for 10.48 miles of water-bound macadam road construction, including concrete culverts and bridges costing \$100,000.

Ala. Winfield, W. Va.—Putnam county will receive bids April 1 for 4 miles of road construction.

Half Billion Dollars' Worth of Construction Under Way in Oklahoma.

Oklahoma City, December 11.

After Manufacturers Record:

Road work in the State of Oklahoma is just getting under way again, after lifting of the ban, and while no definite amount of work can be set out at present, we have the possibilities, which will likely be carried through as follows:

We have about \$500,000,000 of work under construction, drawn prior to July 1 of this year, and between July 1, 1918, and July 1, 1919, we will let \$100,000,000 worth of work which is jointly paid by the State and counties, and very likely \$1,250,000 worth of work which will be paid for jointly by the Federal, State and local organizations.

In addition to this, there are bond issues which have been voted, and the work only awaits the approval of the Capital Issues Committee. As soon as this attitude in favor of road improvement by bond issue, the bond issue throughout the State will more than likely offset all other funds available.

H. C. SMITH,

Assistant State Engineer.

Aggressive Campaign for Highway Construction Urged at Chicago Meeting.

A highway congress was held in Chicago last week under the auspices of the American Association of State Highway Officials and the Highway Industries Association. Practically every State in the Union was represented.

Lieut.-Col. William D. Uhler, president of the American Association of State Highway Officials, opened the congress. An address of welcome was delivered by Governor Frank O. Lowden. Responses were made by Edwin S. Duffey of New York for the Association of State Highway Officials, and S. M. Williams of Ohio for president of the Highway Industries Association.

In his response Mr. Williams said:

"When one of our leading publications recently stated that the Highway Industries can well afford to entirely ignore any thought that in working for good roads they are working in their own interests, but that they are working for the interest of the nation, and every mile of good road built adds to the sum of human happiness and to the nation's ability to utilize its resources for the production of foodstuffs and for increasing its manufacturing facilities, they expressed the same thought and purpose which caused the highway industries of the United States to come together in the organization of the Highway Industries Association about one year ago.

"The Highway Industries of the United States, representing invested capital of more than two billions of dollars and more than one million wage-earners, sincerely and honestly believed it was their patriotic duty,

rather than a selfish privilege, to urge that 'highways must be aggressively advocated as essential to the nation's life.' This duty was magnified by the recent statement from Herbert C. Hoover, Federal Food Commissioner, that 50 per cent. of the perishables produced in America are wasted largely through ineffective means of getting them to market. He also predicted that the food shortage would become more serious in the United States after the war than during the war, and therefore urged the importance of increased efficiency in highway transportation.

"We are all here believing that we have reached a point in the life of our country when it is the duty of all to call a halt in the neglect of our highways, and to urge upon those in authority a realization of the penalty that we as a country are paying for our neglect. Governor Lowden, we appreciate your welcome to the State of Illinois and City of Chicago, and we sincerely congratulate you and the people of your State upon their splendid start towards better roads in Illinois by their recent approval of the \$90,000,000 bond issue."

Logan Waller Page, director of the United States Office of Public Roads, was to have addressed the congress on "Highway Control by Federal Government Under War Conditions." His sudden death in Chicago, December 9, canceled this address, and in its place a tribute to his character and worth as a citizen and Government official was paid by A. D. Williams, State Highway Engineer of West Virginia.

James I. Blakslee, fourth assistant postmaster-general, spoke on "The Development of Motor Parcel Post Routes." Mr. Blakslee declared the condition of the road is the underlying cause of ascending prices of foodstuffs.

"The cost of living," he declared, "continues to increase. Only recently our people have received drastic tuition in the art of conservation in consumption. This education included such severity in application—through wantless, meatless, heatless days—that its effect, no doubt, will be enduring. It is high time that similar consideration, like treatment, were accorded the national scheme of distribution.

"In the solution of this vital problem, however, let there be no confusion, dissension or strife between those who should co-operate or co-ordinate their interests in the establishment of maximum efficiency in distribution. Let there be no ill will, jealousy or suspicion concerning the details. Appreciating the facts thoroughly under the tremendous field of our activities, let there be no quarreling or quibbling over the minor features of accomplishment.

"To provide direct avenues of conveyance—essential to the proper distribution of produce and merchandise—would necessarily require thousands of additional perambulating units, using highways, railways, waterways and airplanes, each available and adaptable in its sphere for efficient service.

"Any endeavor to divert any particular traffic from natural channels or commerce, or from the type of carrier best fitted to convey it for the advantage of any one factor in transportation efficiency, will result in final detriment, not only to that factor, but to those other mediums which should ordinarily and naturally be utilized, and in the last analysis influence the cost of living adversely.

"Where the railway should be used, use it. Where the waterway should be used, use it. Where the airway should be used, use it. And where the highways should be used—well, that is where we do business!"

"In advocating the extended use of motor-driven vehicles over the highways of the nations, I am endeavoring to provide for the commercial convenience of the public. I feel sure that in some small degree, to some extent, large or small, I am attempting to introduce efficiency in distribution to offset partially the increased cost of living to the American people."

New Roads Proposed for Birmingham District.

Birmingham, Ala., December 14—[Special.]—So much interest has been aroused in the proposed road-building plan of Jefferson county for the coming year that numerous representatives of road material, road-building machinery, etc., have appeared before the Board of Revenue of Jefferson county to urge that in the consideration of contracts all kinds of material be given a chance, the road to be constructed to be guaranteed. The present plans are for the issuance of bonds and the building of roads along permanent lines, beginning early next year.

RAILROADS

TWO TEXAS RAILROADS CHARTERED.

Plan Revived to Complete a Third Line Projected Several Years Ago.

Two new railroad enterprises have just been chartered in Texas, the first of any importance for some time. The first of these is the Cisco & Northwestern Railway Co., capital stock \$500,000, which proposes to build a line 70 miles long from Cisco to Graham, Tex., this making possible a connection between the Texas & Pacific Railway and the Missouri, Kansas & Texas Railway (both of which are at Cisco) with the Rock Island Lines at Graham. The incorporators are all residents of Eastland county, in which Cisco is situated. They are R. Q. Lee, G. D. Ward, C. H. Fee, R. W. Mancill, J. H. Garner, G. C. Lingle, J. B. Blitch, B. S. Huey, E. R. McDaniels, D. E. Jones, F. E. Harrell, J. R. Skinner, J. A. Lauderdale, J. J. Butts, D. K. Scott, W. E. Spencer, William Reagan, E. B. Gude and A. J. Ward.

The other line is that of the Eastland, Wichita Falls & Gulf Railroad Co., capital stock \$500,000, which proposes to build from May, Tex., northward via Eastland and Breckenridge to Newcastle, Tex., over 100 miles. May is at the end of a branch of the St. Louis & San Francisco Railroad and Newcastle is a terminus of the Missouri, Kansas & Texas Railway. This line will pass either through or near the Burk Burnett, Electra, Breckenridge, Caddo, Eastland, Ranger and Brownwood oil fields. The incorporators include O. B. Colquitt of Dallas, Fred W. Frost of Breckenridge; H. P. Brelsford and C. U. Connelley of Eastland, Tex.; W. B. Munson, W. V. Calvert, Earl Conner, Tom Harrall, J. E. Butler and B. S. Walker.

A report from Fort Worth says that plans are also being made there to build a railroad via Springtown to Breckenridge, also for the purpose of serving the oil fields, the project being announced by C. C. Gumm, manager of the Fort Worth Chamber of Commerce. Before the war with Germany Capt. B. B. Paddock and associates planned building a line up through this region; surveys were made and part of the right of way was obtained. It is now proposed to resume work where it was left off owing to war conditions and to complete the road.

McAdoo's Views on Railroad Control.

Director-General McAdoo of the Railroad Administration has recommended to Congress that the period of Government control of the railroads be extended to a total of five years, or until January 1, 1924, instead of compelling its termination at or before the end of the period of 21 months after the signing of peace as prescribed in the railroad control act. Holding that it will be impossible to secure necessary legislation during the 21 months' period following peace, "which would mean Government operation for a period in no event longer than two years and three months," Mr. McAdoo regards the only alternative as the prompt return of the railroads to private control or extension of the period of Federal control to five years.

From the standpoint of the railroad owners, S. Davies Warfield of Baltimore, president of the National Association of Owners of Railroad Securities, said before the convention of the Savings Banks of Connecticut, held at Hartford:

"Perhaps I am over-optimistic, yet I cannot but believe that a satisfactory solution will be found for the problems of the railroads.

"No one desires the railroads' return to be operated under the system that prevailed prior to present governmental control. Their continuance under governmental control and operation is desired no longer than may be necessary for the Congress to enact legislation which shall permanently assure their effective operation and control under private ownership and sane governmental regulation.

"Any plan for the return of the railroads should provide for continuing, through an agency or agencies, to be established, such methods of railroad operation as may have been proven, during governmental control, advisable, such as the joint use of important terminals and of other facilities, including the use of equipment of one railroad for the benefit of another during traffic congestion."

Construction Department

EXPLANATORY

The MANUFACTURERS RECORD seeks to verify the items reported in its Construction Department by full investigation. It is often impossible to do this before the item must be printed or else lose its value as news, and in some items it is found advisable to make statements as "reported" or "rumored," and not as positive information. If our readers will note these points they will see the necessity of the discrimination. We are always glad to have our attention called to errors that may occur.

DAILY BULLETIN

The Daily Bulletin of the Manufacturers Record is published every business day in order to give the earliest possible news about new industrial, commercial, building, railroad and financial enterprises organized in the South and Southwest. It is invaluable to manufacturers, contractors, engineers and all others who want to get in touch at the earliest moment with new undertakings, or the enlargement of established enterprises. The subscription price is \$20.00 per year.

AIRPLANE PLANTS, STATIONS, ETC.

Tex., Galveston.—Navy Department, Lieut. L. B. Hyde, Chief Engr., Air Service of Galveston. American National Insurance Bldg. will erect 10 additional buildings at United States Naval Air Station under construction; plans provide for machine and carpenter shop, motor-test shop, oil-storage building, 2 warehouses, paint and dope shop, lumber-storage building, garage, armory and workshop; structures will be of terra-cotta tile or stucco; some 2 stories; mainly of frame; structural steel where necessary; slate roofs; screened throughout; foundations of piling; footing and floors of concrete; steam heat; electric lighting; bids until Dec. 30. (Other facts lately noted.)

BRIDGES, CULVERTS, VIADUCTS

Ark., Little Rock.—Comms. Broadway Street Bridge, J. R. Vinson, Chrmn., will construct reinforced concrete arch bridge across Arkansas River at Broadway St., between cities of Little Rock and North Little Rock; bids received until Jan. 10 by (Pulaski) County Judge Lee Miles, at courthouse; quantities include 24,400 cu. yds. concrete; 1,680,000 lbs. reinforcing steel; 12,000 sq. yds. wood block pavement; 23,400 cu. yds. earth embankment; Hedrick & Hedrick, Const. Engrs., 506 Interstate Bldg., Kansas City, Mo. Bridge previously noted to cost \$25,000. (See Machinery Wanted—Bridge.)

Tenn., Knoxville.—City, John W. Fleniken, Commr. Streets and Public Improvements, will soon ask bids to construct reinforced concrete viaduct (Gay Street Bridge) across Southern Railway tracks; viaduct 900 ft. long, 60 ft. wide; city contemplates vote on \$300,000 additional bonds; now has \$150,000 (from bonds sold) available; J. B. McCalla, City Engr. (Previously noted.)

D. C., Washington.—District Comms., Room 511 District Bldg., will receive bids until Jan. 7 for construction of bridge on Concord Ave. between 3d and 4th Sts. N. W.; specifications on file with Chief Clerk of Engr. Dept., Room 427 District Bldg., Washington, D. C. (See Machinery Wanted—Bridge.)

Ga., La Fayette.—Walker County Comms., John L. Rowland, Clerk, will construct bridge across Cane Creek; reinforced concrete; 2 spans, each 25 ft. in clear; 1 pier and abutment, with 12-ft. roadway; plans by Cushman-Fairleigh Engineering Co., Chattanooga, Tenn.

Ky., Louisville.—Jefferson County, Merritt Drane, County Roads E. gr., rejected bids for reconstructing crossroad wood block floor on bridge across Salt River, on road leading from Louisville to Camp Knox; prepare new plans and re-advertise for bids. (Lately noted inviting bids.)

Miss., Hattiesburg.—Forrest County, H. Gillis, Chancery Clk., let contract Munson & Welborn, Hattiesburg, to construct bridge 3 miles from Brooklyn; cost \$3000. (Lately noted.)

Miss., Cleveland.—Bollivar County Supvs., P. B. Woodard, Clerk, will construct 3 steel bridges, 2 across Sunflower River and one across Bogue Phalia; bids until Jan. 6. Lately noted. (See Machinery Wanted—Bridge Construction.)

Miss., Macon.—Noxubee County will construct 4 brick arches on Binion and Skinner road, 16 mi. southeast of Macon, and 2 brick arches over Ash Creek on Macon and Cookeville road, west of Cookeville, Miss.; Jno. A. Tyson, Chancery Clerk, receives bids until Jan. 6. (See Machinery Wanted—Bridge Construction.)

N. C., Kinston.—Lenoir County Comms.,

let contract Roanoke Iron & Bridge Works, Roanoke, Va., at \$26,607 to construct steel highway bridge with draw span across Neuse River at Oak Bridge site, 6 mi. from Kinston; length 312 ft.; 16-ft. roadway; concrete abutments and piers; R. R. Eagle, Engr., Newbern, N. C. (Lately noted inviting bids.)

Okla., Claremore.—Rogers County Comms., I. W. Slack, Chrmn., rejected bids to construct steel bridge over Verdigris River; re-advertise for opening Jan. 6; W. J. Eldridge, County Clerk. Lately noted. (See Machinery Wanted—Bridge Construction.)

Okla., Mangum.—Greer County will construct bridge, culvert and earthwork embraced in State Aid Projects Nos. 2, 3, 6 and 7; R. F. Maloy, County Clerk, receives bids until Jan. 6. (See Machinery Wanted—Bridge Construction, etc.)

Va., Leesburg.—Loudoun County Comms., contemplate bridge and road improvements.

CANNING AND PACKING PLANTS

N. C., Charlotte, R. F. D. No. 1.—Virginia Dare Hunt Club is interested in installation of canning machinery for vegetables, etc. (See Machinery Wanted—Canning Machinery.)

S. C., Charleston.—C. W. Wicking, 25 New St., will install plant for canning and for making jellies and jams. (See Machinery Wanted—Canning and Preserving Equipment.)

CLAYWORKING PLANTS

Tex., Fort Worth.—Terra-Cotta.—Texas Terra-Cotta Co., capital \$50,000, inceptd. by P. E. Miller, M. K. Miller and O. M. West.

COAL MINES AND COKE OVENS

Ky., Hazard.—Midland Mining Co. increased capital from \$150,000 to \$190,000.

Ky., Hillside.—Oakland Coal Co., capital \$50,000, inceptd. by C. S. Curd, D. O. Kimmell and W. M. Mastin.

Ky., Jeff.—Acup Creek Coal Co. organized; Arthur L. Ware, Pres.; John C. Eversole, V.-P.; Harry P. Jones, Secy.-Treas.; develop 2000 acres; daily output 1500 tons; will install electrically-operated equipment, estimated cost \$175,000. Lately noted inceptd., \$175,000 capital. (See Machinery Wanted—Electrical Equipment.)

Ky., Pineville.—Indian Creek Coal Co. increased capital from \$25,000 to \$50,000.

Ky., Pineville.—Molus Coal Co., capital \$100,000, inceptd. by J. S. Cooper, C. R. Walker and J. C. Walker.

Okla., Catala.—Producers & Consumers' Coal Co., 508 James Bldg., Miami, Okla., organized; John B. Cavanagh, Pres.; C. R. Jordan, V.-P.; E. M. Smith, Secy.-Treas.; develop 1000 acres; daily output 50 tons; lately noted inceptd., \$150,000 capital. (See Machinery Wanted—Cars; Boilers; Hoists; Rails.)

Tenn., Chattanooga.—Chattanooga Aetna Coal Co. inceptd. by J. A. Chambliss, A. Shelday, K. R. F. Lowery and others; capital \$10,000.

Tenn., Chattanooga.—Raccoon Coal Co., capital \$50,000, inceptd. by C. H. Huston, C. W. Howard, J. S. Fletcher and others; will develop coal lands in Waubatchie Valley, near Kelly Ferry; install tipples.

Tenn., Nashville.—Kentucky Mineral Co. inceptd., capital \$25,000, by John F. Caldwell, E. P. Scales and others.

W. Va., Clarksburg.—United Bituminous Coal Co., capital \$50,000, inceptd. by W. S. Stewart, G. Bassel, F. V. Boule and others.

W. Va., Fayette.—P. M. Snyder of Oak Hill and Mt. Hope, W. Va., and others, organized company to develop coal land in Fayette-Raleigh field.

W. Va., Grafton.—Ten Mile Fuel Co., capital \$20,000, inceptd. by Eugene Summerfield, S. H. Summerfield, Mary S. Holden and others.

W. Va., Huntington.—Vanball Coal Co., 825 Fourth Ave., organized; C. W. Campbell, Pres.; Martha L. Burnett, Secy.-Treas.; John R. Evans, Mgr.; develop 600 acres; daily output 500 tons. (Lately noted inceptd., capital \$50,000.)

W. Va., Dana.—Pinnacle Coal & Coke Co., capital \$50,000, inceptd. by E. C. Snyder and Edward H. Sternmetz of Bangor, Pa.; S. B. Williams of Scranton, Pa., and others.

COTTON COMPRESSES AND GINS

Miss., Crystal Springs.—C. M. Huber will operate purchased property as cotton gin in connection with oil mill, etc. (See Cottonseed Oil.)

Tex., Lexington.—Lexington Gin & Cotton Co. inceptd. by L. C. Smith, J. S. Hillsman, C. M. Merchant; capital \$12,000.

COTTONSEED-OIL MILLS

Miss., Crystal Springs.—C. M. Huber purchased property of Crystal Springs Oil Mill and Fertilizer Factory; will improve; operate as ice plant, fertilizer factory, oil mill and cotton gin.

DRAINAGE SYSTEMS

Mo., Kirksville.—Adair Salt River Drainage Dist. of Adair County, C. E. Murrell, Atty., will construct 5½ mi. of drainage canal; bottom width 6 to 8 ft.; 185,000 cu. yds. excavation; Jas. E. Bonnell, Ch. Engr., Brocton, Ill.

ELECTRIC PLANTS

Ark., Little Rock.—Little Rock Railway & Electric Co., C. J. Griffith, Gen. Mgr., will install 5000 K. W. turbine in power-house; purchased equipment.

Fla., Bunnell.—City let contract to Fairbanks, Morse & Co., Atlanta, Ga., to install alternating lighting system; replace present direct-current installation.

Fla., Crescent City.—City let contract to Fairbanks, Morse & Co., Atlanta, Ga., to complete electric-light plant; will include pole transformers; cost \$12,000.

Miss., Tutwiler.—City voted \$8000 bonds to construct electric-light plant. Address The Mayor. (Lately noted.)

Mo., Marshfield.—City voted \$15,000 bonds for electric-light plant. Address The Mayor. (Lately noted.)

Tex., Weatherford.—City contemplates rebuilding electric-light plant, recently damaged by fire. Address The Mayor.

W. Va., Wheeling.—Wheeling Electric Co. (subsidiary of American Gas & Electric Co., 30 Church St., New York) is reported as contemplating construction of steam-operated electric-power plant, estimated to cost \$1,000,000.

FERTILIZER FACTORIES

Md., Elkton.—Scott Fertilizer Co. will rebuild plant reported burned at loss of \$250,000.

Md., Curtis Bay.—Standard Guano Co. will rebuild plant burned at loss of \$400.

Miss., Crystal Springs.—C. M. Huber purchased fertilizer factory; will improve. (See Cottonseed Oil.)

FLOUR, FEED AND MEAL MILLS

Fla., Green Cove Springs.—Green Cove Springs Feed & Milling Co., N. M. Coffey, Pres., lately noted inceptd., \$10,000 capital, to establish grist mill, rice mill, etc., has leased building, and commenced operation of corn and feed mill of small capacity; will construct building for rice and feed machinery; capacity of rice machines to be 200 bu. daily; corn capacity 100 bu.; feed, 5 to 10 tons; elevator capacity 3000 bu.; building and machinery contracts not yet let; probably use iron or steel for elevator and mill construction. (See Machinery Wanted—Building Materials.)

Fla., Pensacola.—C. C. Keyser, R. F. D.,

Rt. A., acquired Eva Springs Water Mill site and will erect grist, feed and rice mill; also install small refrigeration plant for dairy. (See Machinery Wanted—Machinery.)

Va., Bristol.—Shankle Bros. will erect flour and corn-meal mill.

FOUNDRY AND MACHINE PLANTS

Ala., Mobile.—Boilers.—Hodges Boiler Works will rebuild plant noted destroyed by fire loss \$8000.

Ga., Camp Jessup.—Welding.—War Department, Washington, D. C., through director of operations, has issued orders for abandonment of construction work on welding school being erected at Camp Jessup, near Atlanta, Ga.

Md., Baltimore.—Machine Shop.—Magna Machine Co., 1831 Cathedral St., Chas. M. Knock, Pres., will erect lately-noted machine shop; 55x22 ft.; brick, mill construction.

Mo., St. Louis.—Electrical Machinery.—Advance Electric Co., capital \$50,000, inceptd. by Edward Bretch, A. L. Canavan and D. J. O'Keefe.

Mo., St. Louis.—Explosive Shells.—War Department, Washington, D. C., through director of operations, has issued orders for abandonment of construction work on Laclede Gas Light Co.'s Broadway and Manchester St. plants. (Previously noted.)

Mo., St. Louis.—Steering Wheels, etc.—Blackburn Patent Steering Wheel Co., capital \$60,000, inceptd. by Buel P. Alexander of Bedford, Mo.; Jasper Blackburn of Webster Groves, Mo., and others.

Tenn., Chattanooga.—Boilers and Tanks.—Chattanooga Boiler & Tank Co. will erect riveting tower costing \$4000; Mark K. Wilson Co., Contr., Chattanooga.

Tenn., Chattanooga.—Boilers.—Casey-Hedges Boiler Co. will erect \$20,000 addition and remodel plant.

Tenn., Chattanooga.—Roofing, etc.—Chattanooga Roofing & Foundry Co. will make repairs to plant costing \$2500.

Tex., Fort Worth.—Oil-well Machinery.—Gulf Well Machinery & Mfg. Co., Dan Waggoner Bldg., will build plant costing \$25,000 to manufacture oil-well machinery; will remove equipment from established plant; erect machine shop 250x85 ft. and install new equipment costing \$25,000; also separate building, 160x80 ft., for iron, brass, bronze and aluminum foundry; other buildings to include pattern shop, forge shop, power-house, garages and office structure; maintain yards for pig-iron, coke, steel and scrap iron; will manufacture complete rotary rigs (excepting boiler), drilling machinery, etc.

Va., Norfolk.—Foundry.—Tidewater Foundry, capital \$5000, inceptd. by C. L. Hughes, Pres.; O. L. Keeter, Secy.; both of Norfolk, N. O. at Norfolk.

Va., Richmond.—Boiler Works.—War Dept., through director of operations, has ordered cessation of building operation at boiler-works in South Richmond being constructed by Newport News Shipbuilding & Dry Dock Corp., acting for Emergency Fleet Corp. (Previously detailed.)

W. Va., Huntington.—Mine Cars.—H. T. Lambert Co., 718 First National Bank Bldg., purchased 2-story buildings and will equip for manufacture of mine cars and mine supplies; install machinery; daily capacity, 10 mine cars. (See Machinery Wanted—Machine-shop Equipment.)

W. Va., Wheeling.—Machine Shops.—Wheeling Machine & Welding Co., capital \$50,000, inceptd. by John A. Moore, William J. Bond dock and Joseph W. Millard.

GAS AND OIL ENTERPRISES

Ky., Lexington.—Vis Oil Co., capital \$50,000, inceptd. by E. E. Hutchings, Sam Bels and C. B. Mathias.

Mo., St. Louis.—Dome Oil & Gas Co., capital \$50,000, inceptd. by Charles C. Rhodes, Harry R. Fardwell and John Hancock.

Okla., Okmulgee.—Okmulgee Oil Co., capital \$2,000,000, inceptd. by W. S. Turman, J. J. Deaner and Fannie Francis.

Okla., Tulsa.—Oil-pipe Line.—Southwestern Pipe Line Co. will be organized by interests associated with Cosden & Co.; plans to construct 8-in. oil-pipe line from Ranger (Tex.) oil field to Tulsa, 250 mi. furnish

ing additional supply of crude oil to Cos-
sion & Co.'s oil refinery at Tulsa; estimated
cost \$5,000,000.

Tex., Fort Worth—Oil Refinery.—El Dorado
Refining Co. will erect 5000-bbl. oil refinery
costing \$1,000,000, and contemplates con-
structing pipe line from Ranger to Fort
Worth.

Tex., Fort Worth.—Hughes-Cronk Oil &
Gas Co., capital \$55,000, incptd.; Hal P.
Hughes, Pres.; S. D. Shannon, V.-P.; E. P.
Cronk, Secy-Treas.

Tex., Fort Worth—Oil Refinery.—Evans-
Thayer Co. is reported to build oil refinery
of 200 bbls. daily capacity.

Tex., Houston—Gas Products.—Magnolia
Gas Products Co., capital \$100,000, incptd. by
R. D. Cash, L. L. Sinclair and W. H. Walne.

Tex., Houston.—Tex-Homa Petroleum Co.,
capital \$100,000, incptd. by A. L. Beason,
Geo. G. Clough and J. W. Hamilton.

Tex., Mineral Wells—Pipe Line.—Allied Oil
Co. of Pittsburgh, Pa., is reported to con-
struct 16-in. gas pipe line from gas fields in
Palo Pinto and Eastland counties through
Mineral Wells and Weatherford to Fort
Worth.

Tex., Ranger—Oil Pipe Line.—Prairie Pipe
Line Co., Independence, Kan., has abandoned
its plans to construct oil pipe line from
Ranger to Gulf coast, and proposes instead
to enlarge line from Ranger north into
Oklahoma fields. (Ranger to Gulf pipe line
lately noted.)

ICE AND COLD-STORAGE PLANTS

Fla., Pensacola.—C. C. Keyser, R. F. D.,
St. A., will install small refrigeration plant.
See Flour and Feed Mills. (See Machinery
Wanted—Refrigerating Machinery.)

Miss., Crystal Springs.—C. M. Huber will
operate purchased property as ice plant in
connection with cottonseed-oil mill, etc. (See
Cottonseed Oil.)

Miss., Long Beach.—R. Inglis Mfg. & Com-
mission Co., capital \$30,000, incptd. by R.
Inglis, P. Guilfrin, L. B. Saurier and others.

IRON AND STEEL PLANTS

Md., Sparrows Point—Iron Furnaces, Steel
Plate Mills, etc.—Bethlehem Steel Co. is
proceeding with construction of additional
steel plant improvements, including plate
mill to duplicate one already in operation;
1 story; steel frame; brick sides with steel
sash; concrete foundations and roof; to be
equipped with large type plate rolling ma-
chinery; foundation for third mill com-
pleted; also installing 240 Kopper coke ovens
with by-product recovery plants; construct-
ing ore pier with electric derricks, cranes,
railways, etc. (Portion of \$50,000,000 improve-
ments previously mentioned, including steel
plant buildings for which Deverell-Spencer
Co., 514 Garrett Bldg., Baltimore, was noted
having contract.)

LAND DEVELOPMENT

Fla., Tampa.—Senator J. E. Bruce of Chi-
cago and others will develop townsite and
farming land; has about 13,000 acres and
plans to divide into 10, 20 and 40-acre tracts.

S. C., Rock Hill.—City retained E. L.
Draper, Charlotte, N. C., to prepare plans
for extension of cemetery.

S. C., Rock Hill.—City retained E. L.
Draper, 565 Trust Bldg., Charlotte, N. C.,
to prepare plans for municipal park.

LUMBER MANUFACTURING

Ala., Fayette.—W. P. Brown & Sons Lum-
ber Co. of Louisville, Ky., will rebuild 2-band
mill.

Ala., Mobile.—Edw. L. Davis Lumber Co.,
Louisville, Ky., organized; Edw. L. Davis,
Pres.; C. M. Sears, Treas.; Mary D. Rogers,
Secy.; building construction probably by
owners; machinery mainly purchased. Late-
ly noted to erect sawmill. (See Machinery
Wanted—Boilers; Engines.)

Ark., Little Rock.—Sutton-Davidson Lum-
ber Co., capital \$15,000, incptd.; R. H. Sut-
ton, Pres.; K. M. Hall, V.-P.; A. C. David-
son, Secy-Treas.

La., Korthwood.—Vernon Parish Lumber
Co., J. H. Kurth, Jr., Pres. and Gen. Mgr.,
Korthwood, P. O. at Pawnee, La., increased
capital from \$500,000 to \$600,000; plans to
begin construction in January of lumber
plant to develop 17,000 acres timber land;
plant will include saw and planing-mills,
single cutting band-saws for timbers, steam
dry kilns, soda-dipping and air-drying equip-
ment, etc.; also develop townsite. (Noted
in June as organized with \$500,000 capital.)

La., New Orleans.—W. E. Clark Lumber

Co., lately noted incptd., \$100,000 capital, will
not manufacture lumber; wholesalers and
exporters.

N. C., Raleigh.—T. J. Woodard Lumber Co.,
capital \$100,000, incptd. by T. J. Woodard,
D. B. Morgan and Ralph Rosenberg.

N. C., Wilmington.—Colivia Lumber Co.,
capital \$100,000, incptd. by B. G. Emple,
Adam Emple and E. J. Edwards.

N. C., Asheville.—Woodard Lumber Co.,
capital \$25,000, incptd. by T. J. Woodard,
D. B. Morgan and Ralph Rosenberg.

Okla., Capron.—Capron Milling Co., capital
\$30,000, incptd.; Clay H. Howard, Pres.; G.
A. Cameron, V.-P., Wichita, Kans.; W. J.
Cameron, Secy-Mgr.; continues established plant.

Okla., Capron.—Capron Milling Co., capital
\$30,000, incptd. by Clay H. Howard, W. J.
Cameron of Capron, and George A. Cameron,
Wichita, Kan.

Okla., Tulsa.—Producers Lumber Co., capi-
tal \$100,000, incptd. by D. D. Wertzberger,
L. M. Kaiser and J. R. Calloway, Oilton.

Tex., Wichita Falls.—Wichita Falls Lumber
& Building Co. organized; M. D. Walker,
Pres. and Gen. Mgr.; H. J. Naylor, V.-P.,
and Supt. of Constr.; J. C. Myinger, Secy-
Treas.; install planing mill and establish
lumber yard; erect 100 residences, cost \$200
to \$15,000 each.

Va., Norfolk.—Norfolk Hardwood Lumber
Co. incptd., capital \$50,000; L. R. Summitt,
Pres.; G. H. Cheely, Secy., both of Newport
News, Va.

Va., Richmond.—Butler Lumber Co., capi-
tal \$25,000, incptd.; G. M. Garrett, Pres.,
Cartersville, Va.; H. H. Hubrad, Secy.,
Richmond.

W. Va., Hardman.—Tygart Valley Lumber
Co., through Edgar W. Doll, purchased 1400
acres timber; will develop (removing lately-
purchased equipment from Newburg); manu-
facture commercial timber, pit and railroad
ties, posts, etc.

METAL-WORKING PLANTS

Mo., St. Louis—Metal-working.—Magnus
Metal Co., 4153 Clayton St., will remodel
plant; cost \$450; Wimmer Construction Co.,
Contr., St. Louis.

MINING

Ark., Cushman—Manganese.—American
Manganese Co. organized; acquired 2000
acres mining land under development.

Ark., Cushman—Manganese.—C. H. Murphy
of Batesville will develop manganese lands.

Ky., Paducah—Fluorspar and Lead.—
Union Mining Co., 615 City National Bank
Bldg., organized; B. F. Weltzel, Pres.; J.
S. Laurent, V.-P.; both of Louisville; Auber
Smith, Secy, Treas. and Mgr., Paducah;
developing 141 acres fluorspar; install fluors-
par and lead-mining machinery. Lately
noted incptd., capital \$25,000. (See Machin-
ery Wanted—Mining Machinery.)

Okla., Tulsa—Kaolin and Marble.—Okla-
homa Mining & Metals Co., care of South-
western Light & Power Transport Co., Mi-
ami, Okla., organized, capital \$200,000; Geo.
V. Clarke, Pres., Henryetta, Okla.; W. T.
Crossen, V.-P. and Ch. Engr.; W. S. O'Ban-
ion, Treas.; T. H. Thompson, Secy., all of
Miami, Okla.; will install kaolin mining and
grinding machinery; also establish marble
quarry for developing gray marble. (Under
Okla., Grove, Messrs. Crossen and Clarke
were noted in Oct. as leasing 200 acres kaol-
in mining property for development.)

Tenn., Nashville—Fluor Spar, etc.—West
Kentucky Mineral Co. incptd., capital \$25,000,
by E. P. Seaton, Sam Jarvis, John F. Cad-
well and others.

MISCELLANEOUS CONSTRUCTION

Fla., Jacksonville.—Interlocking Tower.—
Jacksonville Terminal Co. let contract to
C. E. Hillier to erect interlocking tower;
20x40 ft.; concrete to sill height and brick
above; steam heat; electric lights; cost
\$5000.

Fla., Key West—Bulkhead and Wharf.—
East Const Hotel Co., Wm. J. Krome, Direc-
tor of Construction, will build yacht landing
with concrete bulkhead, in connection with
reposed hotel.

La., Gretna.—Board of State Engineers let
contract to J. E. Hemenway to construct
crossed timber bulkhead from Gretna loop
to Jackson Ave. ferry on Gretna road; cost
\$43 per lineal ft.

Tenn., Memphis—Levee.—Mississippi River
Comsn., First and Second Districts, Custom-
house, let contract J. A. Burt, Gunnison,
Miss., at \$85,500, and to Roach, Stansell,

Lowrance Bros. & Co. of Memphis, Tenn., at
\$18,250 to construct levees in White River
District. (Lately noted.)

Tenn., Memphis—Levee.—Mississippi River
Comsn., First and Second Districts, Custom-
house, let contract Roach, Stansell, Lowrance
Bros. & Co. of Memphis, Tenn., at \$461,700 to
construct 731,000 cu. yds. of earthwork in
Upper and Lower St. Francis Levee District.
(Lately noted.)

Tex., Cameron—Bridge Pier Protection.—
Milam County will construct protection wall
for bridge pier; bids until Dec. 20; Giles L.
Avriett, Auditor. (See Machinery Wanted—
Bridge Work.)

Va., Norfolk—Heating Plant.—Navy De-
partment, Washington, D. C., plans to re-
build steam-heating plant at Norfolk Navy
Base reported burned at loss of \$30,000;
Commander Macklin is in charge at Navy
Base.

MISCELLANEOUS ENTERPRISES

Fla., Green Cove Springs.—Green Cove
Springs Feed & Milling Co. will build ele-
vator of 300 bu. capacity. (See Flour, Feed
and Meal Mills.)

Fla., Tampa—Dehydrating Plant.—Florida
Brewing Co. contemplates converting brew-
ery into industrial plant; probably vegetable
and fruit dehydrating plant, or sugar re-
finery. (Information supplied by Tampa
Board of Trade, L. P. Dickie, Secy., lately
noted interested in establishment of dehy-
drating plant.)

Ga., Valdosta—Cattle Ranch.—F. C. Doss
and T. J. Davis of Atlanta, Ga., purchased
5000 acres and will convert into cattle ranch;
place wire fence around 3000 acres.

Ky., Evans—Feed and Grains.—Evans
Wholesale Feed and Grain House, B. M.
Williams, Pres. and Mgr., will erect 50x
100-ft. mill-construction building; cost \$3500;
bids opened, contract not let; deal in hay,
grain, feeds, etc. Lately noted. (See Machin-
ery Wanted—Hay, Grain, Feed, etc.)

La., New Orleans—Dehydrating.—Jackson
Brewing Co., Jefferson and Decatur Sts., will
construct plant for dehydrating and bottling
purposes; capacity not decided; dehydrating
machinery not awarded. This supersedes
previous item. See Miscellaneous Factories.
(See Machinery Wanted—Dehydrating.)

Mo., St. Louis—Garbage-reduction Plant.—
City has had preliminary plans prepared
and contemplates \$550,000 bond issue to build
garbage-reduction plant; project includes
erection and maintenance of 2 receiving
stations, capacity 300 tons per 8 hrs.; in-
clude approaches, drives, platforms and un-
loading appliances on 5-acre site adjacent
to Mississippi River or railroad. L. R.
Bowen, Engr., 300 City Hall. (Previously
noted.)

Va., Norfolk.—Proctor-Saunders-Riddick
Co., capital \$10,000, incptd.; Sidney J. Pro-
ctor, Pres.; Wm. H. Saunders, Secy.

Va., Norfolk—Contracting.—Seacoast Con-
struction Co., capital \$50,000, incptd.; E. L.
Garretson, Pres. and Gen. Mgr.; Walter C.
Rawles, Secy-Treas.; will contract for con-
struction concrete roads, houses, bridges,
docks and wharves.

MISCELLANEOUS FACTORIES

Ark., Fort Smith—Brooms.—Fort Smith
Broom Co., capital \$10,000, incptd.; C. B.
Carson, Pres.; S. M. Williams, Secy-Treas.

Ark., Little Rock—Pieric Acid.—War Dept.,
Washington, D. C., through director of
operations, has issued orders for abandon-
ment of construction work on pieric acid
plant being erected at Little Rock. (Pre-
viously described.)

Fla., Tampa.—Saberton Mfg. Co., capital
\$100,000, incptd.; John S. Long, Pres.-Treas.;
H. L. Tykes, V.-P.; K. I. McKay, Secy.

Ga., Brunswick—Pieric Acid.—War Dept.,
Washington, D. C., through director of
operations, has issued orders for abandon-
ment of construction work on pieric acid
plant previously noted to be erected at
Brunswick by Butterworth-Judson Corp., 61
Broadway, New York.

Ky., Ashland—Coffee.—Betterton-Rupert
Coffee Co. will construct 2-story, 50x30-ft.
addition to purchased building; fireproof;
open bids Jan. 1; address T. Lee Betterton,
Treas., for building proposals; install addi-
tional machinery, partly purchased. (Lately
noted under W. Va., Huntington.)

Ky., Louisville—Gas Burners.—Perfect
Combustion Burner & Mixture Co., capital
\$50,000, incptd. by Bruce Haldeaman, John B.
Wintersmith and Frank W. Gault.

Ky., Louisville—Store Fixtures.—Wirth-
Lang Co. incptd. by Edw. C. Wirth, Myer

Lang and Simon Lion; succeeds Wirth-Lang
& Bergel Co. and increases capital from \$30,-
000 to \$30,000.

La., New Orleans—Artificial Marble, etc.—
Marblette Company organized by L. R. Hoo-
ver, 418 Whitney-Central Bldg., to manufac-
ture artificial marble and terra cotta, etc.;
will install machinery. (See Machinery
Wanted—Mixers; Dryers; Molds.)

La., New Orleans—Bottling.—Jackson
Brewing Co., Jefferson and Decatur Sts.,
Lawrence B. Fabacher, V.-P. and Mgr., has
let contract for construction of 3-story
building; 100x120 ft.; reinforced concrete;
Arch't., Louis Leble, 3739 Pine Grove Ave.,
Chicago; bottling plant capacity 200 bbls.
machinery awarded; install dehydrating
plant, capacity not decided, machinery not
awarded. This supersedes previous item.
See Miscellaneous Enterprises. (See Machin-
ery Wanted—Dehydrating.)

Md., Baltimore—Clothing.—K. M. W. Suit
& Cloak Co. leased 3-story brick building at
29 N. Bond St.; will improve and equip as
clothing factory.

Mo., St. Louis—Electrical Supplies, etc.—
Kant Break Spark Plug Co., capital \$30,000,
incptd. by J. M. McKernan, D. M. Hutchin-
son, John White and others.

Mo., St. Louis—Macaroni.—John J. Meier
& Co. leased 3-story brick building and will
remodel for manufacture of macaroni and
spaghetti.

N. C., Denton—Chamberlain-Garner Co.
incptd., authorized capital \$100,000, by J. O.
Garner, J. W. Snider and J. W. Cudato;
will manufacture fireless cookers.

N. C., Lumberton—Fiber Mill.—Lumberton
Fiber Co. organized; J. L. Stephens, Pres.;
T. C. Barnes, V.-P.; F. M. Huggins, Mgr.;
will erect small fiber mill; open building
proposals upon completion of plans; install
machinery. Lately noted as paper mill.
(See Machinery Wanted—Electric Machinery.)

N. C., Salisbury—Bottling.—Mint Cola Co.,
capital \$50,000, incptd. by W. C. Maupin and
others.

Okla., Oklahoma City—Castor Oil.—Ameri-
can Castor Oil Co., 600 Colcord Bldg., or-
ganized; J. E. Lawhead, Pres.; H. C. Leete,
V.-P. and Mgr.; E. C. Barnes, Secy.; erect
10-ton plant, cost \$50,000; fireproof; has esti-
mate and bid; will install machinery, capac-
ity 5 to 10 tons castor beans per 24 hours.
Lately noted incptd., \$100,000 capital. (See
Machinery Wanted—Castor-oil Machinery.)

Okla., Tulsa—Shoes.—The Daniel Shoe Co.,
J. P. Daniel, V.-P. and Mgr., Wichita, Kan.,
will erect fireproof building for manufactur-
ing men's and boys' shoes; daily capacity
2500 prs.

S. C., Columbia—Creamery.—Columbia
Creamery Co. increased capital to \$18,000.
(Lately noted to double capacity of milk
plant, having purchased equipment, includ-
ing pasteurizing and holding equipment,
coolers, separators, etc.)

S. C., Camden—Creamery.—Carolina Far-
mers' Co-operative Creamery, capital \$10,000,
incptd. by J. S. Shanklin of Columbia, S. C.,
and R. M. Cooper, Jr. of Winnsboro, S. C.

S. C., Charleston—Bottling.—Farline Sup-
ply Co., capital \$30,000, incptd.; Hyman
Pearlstone, Pres.; A. S. Kulinski, V.-P.;
H. Wilkins, Secy-Treas.

Tex., Dallas—Crackers, etc.—Brown
Cracker & Candy Co. will erect additions to
double capacity of plant.

Tenn., Memphis—Egg Case Fillers.—Mem-
phis Egg Case Filler Co. (J. S. Long, C. M.
Milligan), Box 427, rented temporary quar-
ters for manufacture of egg case fillers.
(Lately noted.)

Tex., Fort Worth—Gas-reducing Plant.—
Navy Department, Washington, D. C., has
begun construction of plant at North Fort
Worth for production of argon from natural
gas for use in lighter-than-air craft; will
process natural gas from wells at Petrolia,
Tex.; construct 10-in. underground steel pipe
line from Petrolia to North Fort Worth, 95
mi.; pressure of 330 lbs. per sq. in. furnished
by Lone Star Gas Co.'s compressor station
at Petrolia; purchased 7750 tons of pipe and
other materials, costing \$1,050,000; pipe line
is being laid under contract for \$500,000;
Bureau of Yards and Docks prepared plans
for buildings; general contract includes erec-
tion of compressor building, separator build-
ing, office and laboratory, storehouse and
lime-storage structures, installation of trans-
formers purchased by Government, construc-
tion of power lines and railroad sidings, lay-
ing of pipe, installation of machinery, build-
ing of roads, etc.; additional contracts to
include carbon dioxide removal system and
gas holders, 2 wells and cooling pond; esti-
mated cost of buildings and appurtenances,

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

\$300,000; argon to be compressed into cylinders for shipment; Lone Star Gas Co. will remove highproof gasoline, about 5 gals. per 100 cu. ft. from gas at Petrolia; after natural gas has been processed by Government at North Fort Worth for its contents of about 1 per cent. argon, it will be discharged into city mains of Fort Worth and Dallas. (Lately noted.)

Tex., Texarkana—Ice Cream.—Texarkana Creamery, 504 Broadway, C. P. Theiss, Mgr., will install ice-cream and refrigerating machinery in completed 60x50-ft. brick and concrete \$10,000 building; cost of machinery \$15,000; daily capacity 1000 gals. ice cream. (Lately noted under Ark., Texarkana.)

Va., Roanoke—Medicine.—Pinchola Medicine Co., capital \$25,000, incptd.; C. Percival, Pres., Portsmouth, Va.; L. E. Furlush, Secy., Roanoke.

W. Va., Bluefield—Candy.—Bluefield Candy Co., leased building and will equip as candy factory; will install candy-making machinery, bottling plant, etc.

Va., Danville.—Leaf Tobacco.—John E. Hughes & Co. increased capital from \$1,000,000 to \$2,500,000.

Va., Graham—Mattresses.—Graham Mfg. Co. will rebuild plant lately noted burned at loss of \$20,000.

Va., Lynchburg—Glass Containers.—Lynchburg Glass Works increased capital from \$200,000 to \$450,000; plant for manufacture of glass food containers is nearing completion. (Previously reported organized and having awarded contracts for plant to have daily capacity of 3 carloads glass food containers.)

Va., Norfolk—Vinegar.—Virginia Fruit Juice Co., Edward S. Mahoney, Pres., 4-12 Washington Ave., let contract J. H. Pierce, Law Bldg., Norfolk, to erect vinegar plant; 2 stories; 4x65 ft. (Lately noted to vote on increase of capital from \$300,000 to \$1,000,000.)

W. Va., Burnsville—Confections.—Merchants Mfg. Co., capital \$50,000, incptd. by R. H. Kidd, J. W. Cosner, R. K. McKinney and others.

W. Va., Lewisburg—Ice-cream.—Lewisburg Ice-Cream Co., capital \$15,000, incptd. by E. E. Livesay, Richlands, W. Va.; J. J. Echols, C. A. Jackson and others of Lewisburg.

W. Va., Fairmont—Phosphorus.—War Dept., Washington, D. C., through director of operations, has issued orders for abandonment of construction work on phosphorus plant lately noted to be erected.

W. Va., Wellsburg—Soft Drinks.—Perrin-Wells Co., capital \$500, incptd. by J. C. Perrin, Geo. C. Wells and John Ralston; will manufacture soft drinks.

W. Va., Buckhannon—Tannery.—Wm. Flaccus Oak Leather Co., E. H. Flaccus, Secy., 1228 River Ave., N. S., Pittsburgh, Pa., will erect 250x30-ft. ordinary construction building; for vats; no contract; plans by D. C. Hughes, Buckhannon; no machinery needed; company produces harness leather.

MOTOR CARS, GARAGES, TIRES, ETC.

Ga., Springfield—Garage.—Talmadge Shearhouse and others are reported to erect garage.

Md., Baltimore—Automobile Tops.—Baltimore Buggy Top Co. let contract to John P. Kunkel, 29 S. Linwood Ave., Baltimore, to erect 1-story, 75x117-ft. building with brick walls, slag roof and cement floor; cost \$15,000; Archt., Clyde N. Friz, 1523 Munsey Bldg.

Mo., St. Louis—Garage.—Frank A. St. Cyr purchased Hamilton Garage, 5837 Delmar Blvd. and will erect addition for accessory salesroom and office.

Mo., St. Louis—Service Station.—Columbia Transfer Co. purchased additional site to permit of enlargement of service station now under construction; structure will be 150x150 ft.; 22,500 sq. ft. floor space; brick; lattice trusses; metal and glass skylights; Nat. Abrahams & Sons Construction Co., Contr., St. Louis; Nat. Abrahams, Archt., St. Louis.

Okla., Tulsa—Inner Tubes.—United States Compression Inner Tube Co., C. R. Porter, Mgr., 9th floor, Daniels Bldg., will build plant to manufacture rubber inner tubes for automobiles.

S. C., Columbia—Automobiles.—Southern Vulcanizing Co., capital \$500, organized by M. C. Johnson and W. T. C. Bates, Jr.

S. C., Monck's Corner.—Berkeley Garage Co., capital \$500, commissioned; C. H. Murray, Lewis G. Fultz, petitioners.

S. C., Rock Hill—Garage.—City Motor Co., D. B. McFadden, Mgr., will erect garage; 2 stories; electric elevator; cost \$10,000.

Tenn., Chattanooga—Automobile Supplies.—Mudge Auto Supply Co., capital \$10,000, incptd. by E. L. Mudge, R. D. Stone, John A. Maguire and others.

Tenn., Chattanooga—Auto Supplies.—Mudge Auto Supply Co., 5th and Broad Sts., capital \$10,000, incptd.; E. L. Mudge, Pres.-Secy.; Bessie S. Mudge, V.-P.; E. L. Mudge, Mgr.; deal in automobile supplies.

Tex., Dallas—Automobiles.—Franklin Motor Co. will occupy building to be rebuilt by S. Reinhardt, owner, at 1630 S. Ervay St.; brick and frame construction; tar and gravel roof; wood floors; cost, without equipment, \$30,000; electric elevator; contract let to Munn Construction Co., 1696 Southwestern Life Bldg., Dallas; Lang & Whitehill, Archts., Dallas, Tex. (Noted burned in November.)

Tex., Texarkana—Filling Station, etc.—C. E. Palmer let contract to C. A. Hammer, Texarkana, to erect 30x50-ft. brick and stucco building at 4th and Pine Sts.; slate composition roof; cement floor; cost \$3000; for filling station and automobile supplies; plans by Stewart Moore, Texarkana. (See Machinery Wanted—Vulcanizers.)

Va., Norfolk—Automobiles.—Colonial Garage Corp., capital \$50,000, incptd.; Thomas H. Wilcox, Pres.; H. L. Smith, Secy.

Va., Norfolk—Garages.—D. W. Raper, 33th and Granby Sts., let contract Johnson Construction Co., Law Bldg., Norfolk, to erect 15 industrial garages in Riverview, Norfolk; 1 story; 30x100 ft.; cost \$25,000.

Va., Richmond—Motor Cars.—Jones Motor Car Co. increased capital from \$25,000 to \$50,000.

W. Va., Fairmont—Automobile Signals.—Urso Auto Signal Co., capital \$25,000, incptd. by Richard Gillespie, G. R. Cunningham, A. F. Giardana and others.

ROAD AND STREET WORK

Ark., Pocahontas—Randolph County, Road Improvement District No. 2, will improve roads to involve 54,000 cu. yds. excavation, 750 lin. ft. 15 to 30-in. pipe culverts, etc.; bids opened Dec. 16; \$50,000 bonds available; Pritchett & Hight, Engrs., Walnut Ridge; W. L. Pope, Secy., Road Comms.

Ark., Walnut Ridge—Lawrence County Comms. have preliminary plans by State Highway Comsn., Little Rock, for 10.48 mi. of road from Walnut Ridge to Sedgewick; water-bound macadam; concrete culverts and bridges; cost \$96,358; F. A. Pritchett, Engr., Walnut Ridge; E. H. Tharp, County Judge.

Fla., Fort Pierce—St. Lucie County will construct 4 mi. of road; County Comms., C. H. Edwards, Chmn., receive bids until Dec. 21. (See Machinery Wanted—Road Construction.)

Fla., Jacksonville.—State College for Women will receive \$15,000 legislative appropriation for paving of driveway on college campus.

Fla., Macclenny—Baker County Comms. will improve roads under supervision of State Highway Dept., Tallahassee; \$75,000 bond issue authorized. (Previously noted.)

Fla., Tallahassee.—State College for Women, J. G. Kellum, Business Mgr., will construct 1500 linear ft. paving and curbing driveway; cost \$12,000; bids until Jan. 5. Lately noted. (See Machinery Wanted—Paving.)

La., Franklinton.—Washington Parish will construct roads; State Highway Commission, Chas. M. Kerr, Chief Engr., New Orleans, has begun preliminary survey; \$500,000 bonds have been voted, and State and Federal aid applied for.

La., New Orleans—City, E. E. Lafaye, Commr. Public Property, let contract (in September) for lately-noted paving to cost \$41,885; Southern Bitulithic Co. of Nashville, Contr. (New Orleans office, 304 Wells Bldg.), states: Cost of paving Bordeaux St., 810.147.50; Cambroune, 83796.20; Dublin, 83828.20; Julia, 87321.50, and Ursulines St., 816,479.30.

Md., Annapolis—City contemplates resurfacing streets; cost \$800. Address The Mayor.

Md., Indian Head.—Navy Department, Washington, D. C., will pave county road at Indian Head; cost \$50,000.

Miss., New Augusta.—Perry County Comms. let contract Bond & O'Neal of Wiggins, Miss., to construct gravel road across county, to be link in Natchez Highway.

Mo., Kansas City.—City let contract John E. Welsh, 1122 E. Gilham Rd., Kansas City, to construct sidewalk on Brooklyn Ave., from 53th to 59th St.

Okla., Hominy.—City let contract James Stanton of Leavenworth, Kans., at \$105,000

for street improvements; J. J. Page, Mayor.

Tenn., Chattanooga.—War Department, Washington, D. C., has authorized beginning of proposed reconstruction of Rossville Blvd. from Rossville to city limits; total width 80 ft.; 24-ft. concrete roadway in center; 25-ft. space on each side of concrete covered with "aprons" of chert, latter to have asphaltic oil finish; total appropriation \$135,000; Merrill Road Improvement Co., Contr., Chattanooga; Major Ripley, Constr. Quartermaster at Chickamauga Park, Chattanooga. (Lately noted.)

Tex., Austin.—Travis County Defined Road District No. 1, D. J. Pickle, County Judge, let road contracts as follows: Concrete, W. E. Dozier, Austin, Tex.; grading and graveling, McMillen & Williamson, Hutto, Tex.; surfacing, Finley Method Co., Houston, Tex.; includes 14 mi. grading and graveling; 1023 sq. yds. concrete; 114,983 sq. yds. bituminous surfacing; O. E. Metcalfe, County Engr. (Bids noted in November.)

Tex., Decatur.—Wise County Comms. let contract J. F. Harner of Sweetwater, Tex., at \$208,000 to grade and gravel 41.5 mi. of highway; 76,000 cu. yds. excavation, 31 mi. road machine work, 55,000 cu. yds. gravel surfacing and 100 drainage structures, including 10 concrete and 2 steel bridges; J. A. Simpson, County Engr. (Lately noted inviting bids.)

Tex., Roby.—Fisher County Road District No. 5 voted \$16,000 bonds to construct roads; M. A. Hopson, County Judge.

Tex., Sherman.—City voted \$50,000 bonds for construction of roads. Address The Mayor.

Tex., Houston.—Harris County Comms. will invite bids for improvement of Ellington Field Road; Government to furnish material; county to undertake construction.

Tex., Houston.—Harris County Comms. will improve Main St. road from end of Main St. to county line; invite bids; estimated cost \$63,000, of which \$45,000 will be provided for from bond issue and balance from State funds.

Tex., Lufkin.—Angelina County Comms. will grade and gravel Lufkin-Nacogdoches Rd.; 2200 linear ft. timber bridges; corrugated iron piping; State aid; bids opened Dec. 14.

Va., Leesburg.—Loudoun County Comms. contemplate road and bridge improvements.

W. Va., Charleston.—City let contract Peter Loesch, Y. M. C. A. Bldg., to construct 500 lin. ft. concrete paving; H. R. Wiley, Engr., Charleston.

W. Va., Grafton.—Taylor County Comms. have approval of State Road Comsn., Charleston, for improvement of Sistersville and Salem road; cost \$27,754.42.

W. Va., Parkersburg.—Wood County Comms., C. E. Pohl, Clerk, Courthouse, contemplates grading and paving 6 mi. of road with concrete; Burdette Woodyard, Engr., Courthouse, Parkersburg.

W. Va., Ripley.—Jackson County, Ripley District, will construct 1-mi. concrete road; receive bids about March 1; J. S. Chase, Engr., Ripley.

W. Va., Saint Marys.—Pleasants County Comms., R. L. Griffin, Clerk, will grade 4 mi. of road; Chas. Ingraham, Engr., Belmont, W. Va.

W. Va., Williamson.—Mingo County let contract Vaughn Construction Co., Shawsville, Va., to construct 8 mi. of earth road between Naugatuck and Wayne County line; cost about \$70,000; F. S. Sluss, Engr., Williamson, W. Va.

W. Va., Winfield.—Putnam County, Curry District, will construct 4 mi. of road; will receive bids about April 1; G. H. Davis, Engr., Poca, W. Va.

W. Va., Wayne.—Wayne County Comms., Courthouse, let contract E. M. Allen and V. M. Adkins, Wayne, at \$1900 to grade 1 mi. of road in Tabors Creek District.

SEWER CONSTRUCTION

Ark., Morrilton.—City will construct sewer system in Sewer Improvement District 2, consisting of 15,900 lin. ft. vitrified pipe, 51 manholes, reinforced concrete septic tank, etc.; Comms. of District receive bids until Dec. 30; Harrington, Howard & Ash, Const. Engrs., Kansas City, Mo. (See Machinery Wanted—Sewer Construction.)

Fla., Miami.—Navy Department, Washington, D. C., has plans for septic tank; cost \$15,000.

Ky., Ashland.—City will construct sanitary sewer on Haney and Williams Sts.; will invite bids; Thos. Boggess, City Engr., City Hall.

Md., St. Helena.—Liberty Housing Corp.

will erect sewage-pumping station; 2x16 ft.; Fisher & Carozza, Contrs., 224 E. Biddle St.; Edward L. Palmer, Jr., Archt., 513 N. Charles St.; both of Baltimore.

W. Va., Martinsburg.—City will construct sewer from Porter Ave. to Valley St.; bids until Dec. 21; T. W. Sparrow, Commr. of Streets. (See Machinery Wanted—Sewer Construction.)

SHIPBUILDING PLANTS

Md., Sparrows Point—Steel Steamships—Bethlehem Steel Co. is proceeding with construction of 3 additional ways at shipyard; 600 ft. each from bulkhead to headhouse and extending 200 ft. outward; concrete and wood construction; cranes operating between them at heads; using about 20,000 piles; to accommodate ship of 15,000 tons capacity; also erecting addition to fabricating shop 40x160 ft., extension to layout shop 60x160 ft., and electrical shop 75x150 ft.; these structures to have steel frames. (Aberthaw Construction Co., New York, previously noted having contract.)

Md., Baltimore.—Spedden Shipbuilding Co., Kenwood Ave. and Boston St., let contract Piel Construction Co., Edmondson and Whitmore Aves., Baltimore, to reconstruct portion of plant lately noted burned at loss of \$150,000.

TEXTILE MILLS

Ga., Americus—Cotton Yarn.—Atlas Underwear Co. of Piqua, O., contemplates establishment of yarn-spinning mill; will furnish yarn to central plant in Piqua.

N. C., Cherryville—Hosiery.—Josephine Knitting Mills is reported to install dyeing equipment; manufacture men's half hose.

N. C., Newton—Hosiery.—Fidelity Hosiery Mills will increase capacity of plant; plans to erect addition to dyehouse and marking room, install additional equipment, etc.

WATER-WORKS

Ala., Fairhope.—Lambert Water Supply Co., Mobile, has contract to furnish water supply by driven wells.

Ala., Mobile.—Mobile County Comms. will drill artesian well on courthouse grounds; plans to install complete water system for courthouse if sufficient water is obtained.

Ga., Atlanta.—City let contract Nichols Contracting Co. of Atlanta for excavation for coagulating basin; 33,500 cu. yds.; cost about \$20,000; H. N. Hurt, Chief of Construction. (Previously noted.)

Md., St. Helena.—Liberty Housing Corp. will erect pumping station; 2 stories; 55x50 ft.; brick; Consolidated Engineering Co. Contr., Calvert Bldg.; Edward L. Palmer, Jr., Archt., 513 N. Charles St.; both of Baltimore.

Mo., St. Louis.—Terminal Railroad Assn. will build water tank; let contract for concrete foundation to Fruin-Colton Construction Co., St. Louis.

Md., Indian Head.—Navy Dept., Washington, D. C., let contract Scott Bros., 120 N. Washington St., Rome, N. Y., at \$45,950 to construct water system. (Lately noted.)

Okla., Poteau.—City, A. W. Lindsey, Ch., asks bids until Jan. 31 to install waterworks and filter plant; includes pumping station and filter-house, both of brick; sedimentation basin; reservoir; two 100 H. P. boilers; pumping engines, 3 steam engine of turbine-driven centrifugal pumping units; other pumps, steam and water piping, filter equipment, concrete overflow dam, and 2 1/2 mi. cast-iron pipe, etc.; J. E. Davis, Engr., Poteau. (See Machinery Wanted—Waterworks and Filter Plant.)

Tex., Marshall.—City voted \$10,000 bonds for waterworks construction. Address The Mayor.

Va., Brookneal.—S. A. & S. Ford will install water system for farm. (See Machinery Wanted—Water System.)

Va., Yorktown.—Navy Department, Washington, D. C., let contract Boyle-Robertson Construction Co., Evans Bldg., Washington, D. C., at \$280,568 to erect water-storage plant. (Lately noted as planning to install two 100,000-gal. water tanks costing \$300,000.)

WOODWORKING PLANTS

Ga., Valdosta—Caskets.—J. P. Ulmer and others will establish factory for manufacture of coffins and caskets.

Ky., Louisville—Caskets.—Southern Casket Co., John W. Manning, Pres., let contract to General Construction Co., 401 Inter-Southern Bldg., Louisville, to erect fireproof and mill-construction addition to casket factory

at cost of \$25,000; 11,400 sq. ft. space; Archts., Joseph & Joseph, Louisville.

Mo., Sandyville.—Bertrand Caple's out-buildings.

Mo., Joplin.—Club Theater building; estimated loss \$100,000.

Miss., Mississippi City.—F. L. Hayes' boarding-house, owned by Mrs. W. H. Harvey.

N. C., Fremont.—Fremont Hotel, owned by Mrs. E. J. Overby; loss \$15,000.

N. C., Kinston.—Girls' dormitory at Caswell Training School; loss \$35,000 to \$40,000; Dr. C. B. McNary, Prest.

N. C., Tarboro.—Consumers' Oil Co.'s plant; building was owned by F. S. Royster Mercantile Co.; total estimated loss \$125,000.

Tenn., Flat Creek.—William F. Bryant's residence.

Tenn., Church Hill.—Church Hill Supply House; loss \$30,000.

Tex., Fort Worth.—Fort Worth Stock Yards Co.'s 9 dwellings, in Niles City; loss \$10,000.

Tex., El Paso.—Office and supply depot at El Paso & Southwestern R. R. Co.'s shops; loss \$200,000, including material; G. F. Hawks, Gen. Mgr., El Paso.

Tex., Marshall.—Fidelity Grain Co.'s warehouse and other buildings; loss \$50,000.

Va., Heatsville.—Country residence of J. B. Cralle, 108 C St. N. W., Washington, D. C.

Va., Norfolk.—Navy Department's steam-heating plant at Norfolk Navy Base; estimated loss \$30,000. Address Commander Macklin.

Va., Newport News.—Navy Department's power plant at naval operating base on Hampton Roads; estimated loss \$500,000.

Va., Richmond.—Thomas Lee Moore's country residence at "Mooreland Farm," on James River Rd.; loss \$50,000.

Va., Stuarts Draft.—W. A. Hodge's barn near Stuarts Draft.

W. Va., Beckley.—Masonic Opera-house; loss \$8000 to \$10,000.

W. Va., Galesville.—B. H. Potts' residence, on Catharlin Rd., near Galesville; loss \$8000.

FIRE DAMAGE

Ala., Mobile.—Hodges Boiler Works; loss \$50,000.

Ga., Atlanta.—Sterchi Furniture & Carpet Co.; loss of building and stock \$75,000 to \$100,000.

Ga., Brunswick.—St. Simon Cotton Co.'s cotton gin on St. Simon Island; loss \$35,000.

Ky., Beverly (R. D. from Hopkinsville).—C. B. Adams' stock barn; loss \$9000.

Ky., Columbia.—Darnell Brothers' planing mill.

Ky., Herndon.—J. S. Lyman & Sons' flour mill, loss \$25,000; J. E. Stevenson's granary, loss \$500.

Ky., Herndon.—J. S. and Lyman Lyman's corn and wheat mill; loss \$25,000.

Ky., Louisville.—City Mill & Lumber Co.'s planing mill; loss \$25,000, including machinery and stock.

Md., Calhorne.—Morris Shores' residence.

Md., Curtis Bay.—Standard Guano Co.'s fertilizer plant; loss \$1000.

Md., Gardenville.—Caleb C. Burton's garage and storage-house on farm at Greenwood, near Gardenville; loss \$6000.

Md., Frederick.—L. E. Mullin's building; loss \$16,000.

Md., Hagerstown.—Roy Garland's residence.

Md., Jessups.—No. 2 matshop at Maryland House of Correction; loss \$35,000, mainly on equipment, including dynamos, winding, wrapping and bradling machines, all in basement of building; matshop was under control of Coco Matting Co. of New York, Robert Steele being Mgr.

Md., Port Deposit.—Stephenson & Reynolds' store, loss \$8000; residences of Walter Robinson, Charles Everhardt and William Cain, Jr.

Md., Baltimore.—J. Howard East's residence, on Cooks Rd., near Edmondson Ave.; loss \$3000.

Md., Elkton.—Scott Fertilizer Co.'s plant; loss \$250,000.

Mo., Joplin.—Club Theater building; estimated loss \$100,000.

Miss., Mississippi City.—F. L. Hayes' boarding-house, owned by Mrs. W. H. Harvey.

N. C., Fremont.—Fremont Hotel, owned by Mrs. E. J. Overby; loss \$15,000.

N. C., Kinston.—Girls' dormitory at Caswell Training School; loss \$35,000 to \$40,000; Dr. C. B. McNary, Prest.

N. C., Tarboro.—Consumers' Oil Co.'s plant; building was owned by F. S. Royster Mercantile Co.; total estimated loss \$125,000.

Tenn., Flat Creek.—William F. Bryant's residence.

Tenn., Church Hill.—Church Hill Supply House; loss \$30,000.

Tex., Fort Worth.—Fort Worth Stock Yards Co.'s 9 dwellings, in Niles City; loss \$10,000.

Tex., El Paso.—Office and supply depot at El Paso & Southwestern R. R. Co.'s shops; loss \$200,000, including material; G. F. Hawks, Gen. Mgr., El Paso.

Tex., Marshall.—Fidelity Grain Co.'s warehouse and other buildings; loss \$50,000.

Va., Heatsville.—Country residence of J. B. Cralle, 108 C St. N. W., Washington, D. C.

Va., Norfolk.—Navy Department's steam-heating plant at Norfolk Navy Base; estimated loss \$30,000. Address Commander Macklin.

Va., Newport News.—Navy Department's power plant at naval operating base on Hampton Roads; estimated loss \$500,000.

Va., Richmond.—Thomas Lee Moore's country residence at "Mooreland Farm," on James River Rd.; loss \$50,000.

Va., Stuarts Draft.—W. A. Hodge's barn near Stuarts Draft.

W. Va., Beckley.—Masonic Opera-house; loss \$8000 to \$10,000.

W. Va., Galesville.—B. H. Potts' residence, on Catharlin Rd., near Galesville; loss \$8000.

DAMAGED BY STORM

Va., Alexandria.—Colonial Apartment; loss \$3000 to \$5000.

BUILDING NEWS

BUILDINGS PROPOSED

Ala., Decatur.—Postoffice.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, receives bids until Jan. 20 to construct postoffice; 2 stories; brick and stone; cost about \$50,000; drawings and specifications at office custodian at site and office Mr. Wetmore as above. (Lately noted.)

Ala., Montgomery.—Postoffice and Court-house.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, receives bids until Dec. 30 for alterations to postoffice, courthouse, etc.; drawings and specifications at office custodian at site and office Mr. Wetmore as above.

Ala., Quantico.—Officers' Houses, Administration Building, etc.—Bureau of Yards and Docks, Navy Department, C. W. Parks, Chief, Washington, received bids to erect 24 officers' houses and administration building to cost \$300,000; also to erect additional buildings and improvements to cost \$70,000; will soon call for new bids. (Lately noted.)

Tenn., Clarksville.—Board of Directors, Clarksville Hospital, will erect addition to building.

Mo., St. Joseph.—G. E. Sampson, R. F. D. No. 4, will erect residence 4 mi. from St. Joseph; 2 stories and basement; 30x40 ft.; brick; stone trim; tile roof; cost \$10,000; construction by owner; day labor.

Okla., Bartlesville.—Empire Building & Loan Assn. is reported having plans prepared by Walton Everman, Bartlesville, for 50 dwellings; 1 and 2 stories; brick and stucco; composition roof; cost \$4000 each; architect receiving bids; 150 more to be erected later. (Previously noted.)

Okla., Tulsa.—A. M. Gent will erect \$4000 bungalow in Hillcrest Ridge.

Tenn., Chattanooga.—Mary E. Handman will remodel building on East 8th St.; cost \$4000.

Tenn., Bristol.—Dr. A. J. Edwards will erect about 50 dwellings in different cities of Tennessee and Virginia; 4 to 6 rooms; bungalow style; concrete construction; metal, tile or composition roof; concrete or wood floors; electric lights; cost \$1000 to \$1500 each; Archt. not selected; date opening bids not determined; construction by owner. (See Building Material; Roofing; Electrical Supplies; Plumbing; Hardware; Concrete Mixer.)

Tex., San Antonio.—E. M. Norton will erect 5-room dwelling; cost \$3800.

Tex., Houston.—Houston Land Corp. has permits to erect 6-room residence at 3417 Granstark St. and 5-room bungalow at 2622 Crocker St.; cost \$3200 and \$4000, respectively.

Tex., Houston.—K. I. Leutz will erect residence; 1 story.

Tex., Houston.—Nettie J. Taylor will erect 1-story frame residence; cost \$2500

Tex., Wichita Falls.—Wichita Falls Lumber & Building Co. organized with M. D. Walker, Prest. and Gen. Mgr.; H. J. Naylor, V.P. and Supt. of Constr., and J. C. Myinger, Secy. and Treas.; plans to erect 100 residences at once and as many more later in various sections of city; cost \$2000 to \$15,000 each; will establish lumber yard and install planing mill.

Va., Newport News.—A. Rosenbaum, 2610 Washington Ave., will erect dwelling on 23d St. near Warwick Ave.; 2 stories; 28x48 ft.; frame; cost \$3500; construction by owner; work begun.

Va., Norfolk.—C. W. Beard, 1502 Fifth St., will erect residence on Omohundro Ave.; 2 stories; frame; cement tile roof; wood floors; Latrobe heaters; electric lights; cost \$6000; plans and construction by owner. (Lately noted.)

Ala., Montgomery.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C., receives bids until Dec. 30 for alterations to courthouse, etc. (See Government and State.)

Ga., Clayton.—Evans County Comms. are considering erecting courthouse.

Ga., Lyons.—Toombs County Board of Roads and Revenues, S. I. Hussey, Chrmn., receives bids until Jan. 6 to erect courthouse previously noted damaged by fire; will use standing walls and foundation; fireproof construction; concrete and hollow tile; steel floors and stairways; hollow tile partitions; cost \$40,000 to \$50,000; plans and specifications at office Alexander Blair, Archt., Macon; also receives bids until Jan. 6 for steam heat, separate contract. (See Machinery Wanted—Heating.)

Miss., Belzoni.—Humphreys County Comms. are planning to erect courthouse. (See City and County.)

D. C., Washington.—J. B. Higdon, 2606 Bladensburg Rd. N. E., will erect frame bungalow at 2905 25th St. N. W.; cost \$3000; W. Brashears, Archt., Washington.

D. C., Washington.—Charles E. Wire, Inc., 1413 H St. N. W., will erect residence at 212 Rittenhouse St.; 2 stories; frame; also erect building at 303 Rittenhouse St.; 2 stories and attic; frame; latter to cost \$12,000; plans and construction by owner.

Fla., New Smyrna.—Chas. H. Sams will erect bungalow.

Fla., Oldsmar.—G. A. McNally will erect 3 dwellings.

Fla., Tampa.—Senator J. E. Bruce, Chicago, and others plan to develop "Bruce's Tampa Highlands," containing 1300 acres; will erect dwellings, clubhouse, etc.; dividing land in 10, 20 and 40-acre tracts.

La., Kelly.—J. H. Hauchey is reported to erect number of dwellings.

Md., Baltimore.—M. P. Moore Carter, Frederick Ave. opposite Melvin Ave., purchased block of ground at Windsor Ave. and 10th St. and will erect 25 daylight dwellings; 23x34 ft.; cost \$3000 each.

Md., Baltimore.—J. Harst Purnell, 32 Roland Ave., will erect 7 dwellings at 1206-18 Longwood St.; ornamental brick construction; six, 21x33.6 ft.; one, 23x33.6 ft.; cost \$17,500; George Dessel, Archt.

Mo., Kansas City.—F. N. Melsburger, 8014

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

HOTELS

Md., Baltimore.—Mrs. Charles F. Woodruff, Washington, D. C., is having plans prepared for improvements to St. Charles Hotel at Charles St. and Fallsaway.

W. Va., Charleston.—Loyal Order of Moose will erect hotel and clubhouse. (See Association and Fraternal.)

MISCELLANEOUS

Fla., Tampa.—Clubhouse.—Senator J. E. Bruce, Chicago, and others plan to develop "Bruce's Tampa Highlands"; will erect clubhouse, etc. (See Dwellings.)

S. C., Greenville.—Undertaking Establishment.—Ed C. Curdts and Robert Wilson will erect building to contain undertaking establishment, etc.; J. C. Gresham, Archt., Greenville. (See Theaters.)

Tenn., Columbia.—Experiment Station.—Middle Tennessee Experiment Station, Dr. H. A. Morgan, Director, is having plans prepared by Eugene Alford for administration building to have auditorium with seating capacity of 500; also for cattle barn, tool shed and dairy barn; cost about \$25,000.

SCHOOLS

Fla., Graceville.—Trustees, Walter Williams, A. D. Burns, Horace Tindell and others, will erect school building to replace structure lately noted damaged by fire; 2 stories; brick; 7 rooms and auditorium.

Ga., Claxton.—City Board of Education plans to erect school building.

Miss., Kossuth.—Alcorn County voted \$3000 bonds to supplement funds available to erect school building to replace Agricultural High School damaged by fire. Address Secretary of Board of Public Instruction, Alcorn County, Corinth, Miss. (Lately noted.)

Miss., Laurel.—Johnson Consolidated School Dist. votes Jan. 3 on \$3000 bonds to erect, repair and equip school buildings; Glade Consolidated School Dist. votes same date on \$4000 bonds to erect, repair and equip school buildings. (Previously noted under Ellisville, Miss.)

N. C., Kinston.—Trustees of Caswell Training School will rebuild girls' dormitory noted damaged by fire at loss of \$35,000 to \$40,000; D. F. Wooten, Chmn., of Committee, Kinston.

N. C., Sedalia.—Palmer Memorial Institute, Charlotte Hawkins Brown, Principal, will erect \$50,000 building to replace structure previously noted damaged by fire.

Okl., Heavener.—School Dist. No. 3 voted \$23,900 bonds for school building; H. J. Folson, Clerk of School Board, Heavener.

S. C., Anderson.—Market.—Anderson Farmers' Market Assn. chartered with \$5000 capital by J. Wade Drake, B. J. Smith, W. A. Watson and others.

Tenn., Knoxville.—University of Tennessee is reported having plans prepared by Miller, Fullenwider & Dowling, 6 N. Michigan Ave., Chicago, for gymnasium; 2 and 5 stories; 110x150 ft.; brick; stone trim; cost \$170,000; also considering erection of \$500,000 administration building and \$150,000 armory.

Tex., Beaumont.—School Board is having plans prepared for 12-room addition to Beaumont High School; cost about \$70,000.

Va., Dinwiddie.—County School Board, R. D. Temple, Chmn., is having plans prepared by Carnel & Johnston, Chamber of Commerce Bldg., Richmond, for school building; 2 stories; 40x75 ft.; frame; cost \$6000.

Va., Rustburg.—Rustburg District School Board, E. G. Peerman, Clerk, has plans by Heard, Cardwell & Chesterman, 1604 People's National Bank Bldg., Lynchburg, for graded and high school; 60x90 ft.; brick; slag roof; wood joist floor construction; cost \$19,000; steam heat, \$2000; let contract in early

spring. Address architects. (See Machinery Wanted—Water System.)

STORES

Ga., Hebardville.—Industrial Stores Co., K. F. Ryner, Incptd. with \$25,000 capital stock and privilege to increase to \$50,000.

La., Kelly.—E. B. Cottingham plans to erect business building on Main St.

Md., Hagerstown.—A. K. Coffman will erect building in spring; 75x40 ft.; 4 stories.

Mo., St. Louis.—Claude Hickman is reported to erect building on Delmar Blvd.

Mo., St. Louis.—Missouri Portland Cement Co., Harry L. Block, Pres., International Life Bldg., leased 8th floor Post-Dispatch Bldg. at 12th and Olive Sts.; alterations planned.

Okl., Oklahoma City.—H. D. Garrison will erect building at 427 E. 14th St.; cost \$5000.

S. C., Greenville.—Ed C. Curdts and Robert Wilson will erect building to contain stores, etc.; J. C. Gresham, Archt., Greenville. (See Theaters.)

Tenn., Chattanooga.—Mrs. Mary E. Handman will expend \$4000 for repairs to building on East 8th St.

Tex., Brenham.—F. W. Schuereberg will remodel brick store building on Alamo Ave.; install plate glass, etc.

Tex., Brenham.—Hermann Furniture Co. will improve brick store building to be occupied by Ernest Herman.

Tex., El Paso.—Owner of Moorhouse block will expend \$3700 for alterations and repairs.

Tex., Texarkana.—S. M. Ragland has plans by Witt & Siebert, Texarkana, for store building; 1 story; 25x100 ft.; brick; concrete floors; will let contract in about 30 days. Address owner. (Lately noted.)

Tex., San Antonio.—Ernest Steves will not remodel building at Houston St. and Alamo Plaza as lately reported.

Va., Newport News.—Mike Suttle, 629 Twenty-fifth St., will erect store and apartment building on 25th St., near Jefferson St.; 4 stories; 45x65 ft.; brick; cost \$18,000; construction by owner.

Va., Richmond.—Hallett & Pratt, Mutual Bldg., Richmond, are preparing plans to remodel store and lodge building at 1816-20 Hull St.; 2 stories; cost \$5000; architects let sub-contracts.

W. Va., Huntington.—Pax Pharmacy Co. Incptd. with \$5000 capital by Dr. C. C. Barnett, Dr. E. Johnson, Dr. W. R. Franklin and others.

THEATERS

Ala., Florence.—M. A. Lightman will erect moving-picture and vaudeville theater.

Ala., Florence.—D. M. Pixley, Little Rock, Ark., will erect \$40,000 opera-house on E. Tennessee St., for pictures, vaudeville, etc.

S. C., Greenville.—Ed C. Curdts and Robert Wilson are having preliminary plans prepared by J. C. Gresham, Greenville, for building on Spring St. to contain theater, stores, undertaking establishment and offices; 2 stories; brick.

Va., Lynchburg.—Mrs. Joseph Cohn will rebuild Broadway Theater, lately noted damaged by fire at loss of \$10,000 to \$12,000.

WAREHOUSES

N. C., Spring Hope.—Planters' Tobacco Warehouse Co. will erect tobacco warehouse to replace structure lately noted damaged by fire.

S. C., Timmonsville.—Farmers' Tobacco Warehouse Assn. chartered with \$16,000 capital by A. H. Askins, W. B. White and J. D. McLeod.

Bride, George St., painting; Electric Supply Co., electric wiring (conduit), all of Charleston; Price-Evans Foundry Co., Chattanooga, Tenn., steel and iron work; plans by D. B. Hyer, People's Bldg., Charleston, call for 3 stories; 144x60 ft.; ordinary brick construction; tin roof; wood-joint floor construction; vacuum steam heat; total cost, \$91,000. (Previously noted.)

BANK AND OFFICE

Ill., Chicago.—Morris & Co. let contract to R. C. Wieboldt, Chicago, to erect office building at 42d and Loomis Sts.; reinforced concrete; 5 stories and basement; 96x162 ft.; first floor, extension of market; restaurant and cafeteria, smoking-room, reading and assembly-room on third floor; other floors for offices; cost \$300,000.

Ky., Louisville.—Southern Casket Co., J. W. Manning, Pres., 1314 W. Broadway, let contract to General Construction Co., Inter-southern Bldg., Louisville, to remodel office building and erect casket factory addition; former face brick; frame interior; latter reinforced concrete; fireproof construction; total cost \$5,000; Joseph & Joseph, Archts., Atherton Bldg., Louisville; D. R. Lyman, Const. Engr., Louisville.

Mo., Kansas City.—Morris & Company let contract to Fogel Construction Co., 315 Reliance Bldg., Kansas City, to remodel and erect addition to office building; 47x156 ft.; 3 stories and basement; brick; composition roof. (Previously noted.)

Mo., St. Louis.—Fulton Iron Works Co. let contract to Fruin-Colborn Construction Co., Laclede Bldg., St. Louis, to reconstruct office building at 1257 Delaware Ave.; 25x75 ft.; brick; plans by owner.

DWELLINGS

Fla., Stuart.—W. L. Stevens has plans by and let contract to S. A. Mathews, Stuart, to erect dwelling; 24x33 ft.; frame; shingle roof; double floors; electric lights; fireplaces. (Lately noted.)

Ky., Ashland.—Thomas Bryan and H. N. Fisher have contract to erect 4 dwellings in South Ashland; Standard Planing Mill Co. will furnish lumber for these structures.

Mo., St. Louis.—W. K. Richardson will erect 2 dwellings on Nottingham Ave.; 2 stories; cost \$5000; Thos. Bidwell, Contr., St. Louis.

Va., Newport News.—W. A. Hill let contract to A. B. Gaines, 735 Twenty-second St., Newport News, to erect dwelling on Twenty-fifth St., near Jefferson St.; 2 stories; 24x50 ft.; cost \$4000; construction begun.

Va., Portsmouth.—Dr. J. A. Guthrie let contract to W. C. Taylor, Portsmouth, to erect residence at 1724 Barron St., West Park View; 2 stories; brick; cost \$10,000. (Lately noted.)

GOVERNMENT AND STATE

Fla., Pensacola.—Latrines, Barracks and Mess Hall.—Bureau of Yards and Docks, Navy Department, C. W. Parks, Chief, Washington, let contract to W. T. Hadlow, Jacksonville, to erect latrines, barracks and mess hall. (Previously noted.)

La., New Orleans.—Hospital.—Bureau of Yards and Docks, Navy Dept., C. W. Parks, Chief, Washington, let contract to H. W. Bond & Bro., 1019 Constantinople St., New Orleans, to erect buildings for Marine Hospital. (See Hospitals.)

Md., Indian Head.—Public Works Office.—Bureau of Yards and Docks, Navy Department, C. W. Parks, Chief, Washington, let contract to De Kinpe Construction Co., Union Hill, N. J., for alterations and additions to public works office. (Previously noted.)

HOTELS

Ala., Florence.—M. J. Dillard purchased Jefferson Hotel and will remodel building; metal and slate roof; wood floors; install plumbing, lavatory, baths and electric fixtures; papering and painting; all contracts let.

HOSPITALS, SANITARIUMS, ETC.

La., New Orleans.—Bureau of Yards and Docks, Navy Dept., C. W. Parks, Chief, Washington, let contract to H. W. Bond & Bro., 1019 Constantinople St., New Orleans, to erect buildings for Marine Hospital; wood; composition roof; wood floor construction; cost \$200,000; plans by Acting Supervising Archt., Treasury Dept., Washington. (Previously noted.)

MISCELLANEOUS

Ark., Little Rock.—Mausoleum.—Westenberg & Smith, Los Angeles, Cal., let contract to

Southwestern Mausoleum Co., Southern Trust Bldg., Little Rock, to construct crypt community mausoleum at Oakland Cemetery; steel reinforced concrete body; exterior, Bedford stone; interior, marble; windows and doors, art glass with bronze casings.

D. C., Washington.—Cafe.—Isaac A. Elko, 2018 I St. N. W., let contract to C. E. Hask & Co., 1911 Pennsylvania Ave. N. W., Washington, to erect cafe at 19th and H Sts. N. W.; 1 story; 26x50 ft.; cost \$70,000; Spelden & Spelden, Archts., 1453 I St. N. W.

Ill., Chicago.—Restaurant, etc.—Morris & Co. let contract to R. C. Wieboldt, Chicago, to erect office building; restaurant, cafeteria, etc., on third floor; first floor, extension of market. (See Bank and Office.)

Ky., Louisville.—Stable and Wagon Shed.—American Railway Express Co. let contract to C. A. Koerner & Co., 315 E. Burnett St., Louisville, to erect stable and wagon shed; 1 and 2 stories; 112x112 ft.; cost \$21,000; D. X. Murphy & Bro., Archts., Louisville Trust Bldg., Louisville; plumbing contract to Gray & Tompert, 414 S. First St., and electric work to F. A. Clegg, 110 S. First St., both of Louisville. (United Express Co. lately noted to erect building.)

Ky., Shelbyville.—Barn.—Mrs. Suzanne Banning let contract to A. Markham & Co., 42 S. Floyd St., Louisville, to erect stock and feed barn; 2 stories; 75x125 ft.; concrete in second floor, frame above; cost \$15,000; Joseph & Joseph, Archts., Atherton Bldg., Louisville. (Lately noted.)

Ky., West Point.—Clubhouse.—War Camp Community Service, G. A. Cornet, State Bldg., let contract to Jenkins-Essex Co., Elizabethtown, Ky., to erect proposed Soldiers' Club; 28x173 ft.; frame; felt slate surface roofing; double pine floors; cost \$18,000; O. P. Ward, Archt., Lincoln Trust Bldg., Louisville; construction begun.

SCHOOLS

Mo., St. Charles.—Board of Education, E. G. Ellwanger, Pres., let contract to E. L. Murphy, St. Charles, to rebuild Jefferson high school; 2 stories and basement; cost \$11,000; Hohenachild & Torbett, Archts., Old Fellows' Bldg., St. Louis. (Lately noted.)

STORES

D. C., Washington.—Wilson & Rogers let contract to G. G. Loehler Co., 141 Thomas St. N. W., Washington, to alter and improve store building at 215 10th St. N. W.; cost \$3000; Marsh & Peter, Archts., 820 13th St. N. W., Washington.

Mo., St. Louis.—Seventeenth Street Realty Co., holding company of George Warren Brown, let contract to Murch Bros. Construction Co., Railway Exchange Bldg., St. Louis, to erect commercial building at northeast corner 17th St. and Washington Ave.; 9 stories and basement; 122x134 ft.; reinforced concrete construction; composition roof; concrete floors; cost \$400,000; steam heat, \$30,000; 2 passenger and 2 freight elevators, \$25,000; Albert B. Groves, Archt., Stock Exchange Bldg., St. Louis. (Previously noted.)

W. Va., Wheeling.—Warwick China Co. let contract to Hartong Bros., Wheeling, to repair building at 2149 Water St.; cost \$600.

WAREHOUSES

S. C., Rock Hill.—People's Trust Co. let contract to E. S. Wallace to erect addition to cotton warehouse; provide space for 100 to 1200 bales.

Tex., Wichita Falls.—Texas Steel Products Co., Inc., Archibald Cary Page, Pres., Hines Bldg., let contract to H. L. Hagerman & Co., Wichita Falls, to erect warehouse and yards; H. L. Hagerman, Archt. and Construction Engr., Wichita Falls.

Va., Newport News.—Wilkins & Robinson Co., Inc., and J. W. Robinson of C. G. & J. W. Robinson, also of Wilkins & Robinson Co. Inc., let contract to C. C. Veilins, Newport News, to erect storage warehouse at 215-11 23d St.; 3 stories and basement; 50x100 ft.; brick; cost \$25,000.

BUILDING CONTRACTS AWARDED

APARTMENT-HOUSES

Va., Alexandria.—Julian D. Knight, Alexandria, has contract to repair Colonial Apartment noted damaged by storm at loss of \$3000 to \$5000.

ASSOCIATION AND FRATERNAL

S. C., Charleston.—T. W. Worthing, Y. W. C. A. Bldg., Society St., Charleston, general contractor to erect Young Women's Christian Assn. building, let following sub-contracts: Carl's Sheet & Plumbing Shop, for plumbing, heating and roofing; Geo. Mc-

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

"WANTS"

Beltting.—See Shafting, Pulleys, etc.

Boiler.—See Mining Machinery.

Boilers and Engines.—Edw. L. Davis

Lumber Co., Louisville, Ky.—Prices on boilers and engines; for installation Mobile, Ala.

Boilers.—Producers & Consumers' Coal

Co. John R. Cavanagh, Prest., 508 James Bldg., Miami, Okla.—Prices on boilers. (See Cars (Mine), etc.)

Boilers.—Acup Creek Coal Co., Arthur L. Ware, Prest., Jeff. Ky.—Prices on two 72x18 R. T. boilers, 150-lb. W. P. (See Electrical Equipment.)

Brass, Bronze, Copper, Pipe and Tubing.—Army Department, Bureau Supplies and Accounts, No. 636, Washington.—Bids to furnish brass angles (plain, naval rolled), schedule 3549, delivery Boston; 37,000 lbs. brass shapes, schedule 3549, delivery Norfolk; bar brass (square, naval rolled); commercial brass (bar, sheet); phosphor-bronze (hard, bar, round; sheet); schedule 3549, deliveries various; 50,000 lbs. manganese bronze; 25,000 lbs. brass, schedule 3549, delivery Portsmouth, N. H.; brass pipe (seamless drawn); copper pipe (seamless drawn, regular); copper tubing (seamless, hard drawn), schedule 3550, deliveries various.

Brick Machines.—E. C. Angell, Lakeland, Fla.—One or more hand-power brick machines; new.

Bridge.—Board Commrs., Room 511, District Bldg., Washington.—Bids until Jan. 7 to construct bridge on Concord Ave., between 3d and 4th Sts., N. W.; specifications, etc., obtainable from Chief Clerk, Engr. Dept., Room 427, District Bldg., Washington.

Bridge Construction, etc.—Greer County Commrs., R. F. Maloy, County Clerk, Mangum, Okla.—Bids until Jan. 6 to construct bridge, culvert and earthwork embraced in State-aid Projects Nos. 2, 3, 6 and 7; plans and specifications on file with County Clerk at Mangum, and with County Engr. at Hobart, Okla.

Bridge Construction.—Rogers County Commrs., I. W. Shack, Chrmn., Claremore, Okla.—Bids until Jan. 6 to construct steel bridge over Verdigris River; plans and specifications on file with W. J. Eldridge, County Clerk.

Bridge.—Lee Miles, Pulaski County Judge, Courthouse, Little Rock, Ark.—Bids until Jan. 10 to construct reinforced concrete arch bridge across Arkansas River at Broadway St., between cities of Little Rock and North Little Rock; plans and specifications on file at office of Judge Miles, County Courthouse, also at office of Hedrick & Hedrick, Const. Engrs., 500 Interstate Bldg., Kansas City, Mo., and are obtainable from the engineers; quantities for work include 24,400 cu. yds. concrete; 1,600,000 lbs. reinforcing steel; 12,000 sq. yds. wood-block pavement; 23,400 cu. yds. earth embankment; J. R. Vinson, Chrmn. Commrs., Broadway Street Bridge.

Bridge Construction.—Bollivar County Suprs., P. B. Woollard, Clerk, Cleveland, Miss.—Bids until Jan. 6 to construct 3 steel bridges, 2 across Sunflower River and 1 across Bogue Phalla; each bidder to furnish his own specifications.

Bridge Construction.—Noxubee County Commrs., Jno. A. Tyson, Chancery Clerk, Macon, Miss.—Bids until Jan. 6 to construct 4 brick arches on Blinn and Skinner road, 16 mi. southeast of Macon, and 2 brick arches over Ash Creek on Macon and Cooksville road, west of Cooksville, Miss.; plans and specifications on file with Chancery Clerk.

Bridge Work.—Milam County Commrs., Cameron, Tex.—Bids until Dec. 20 to construct protection wall for bridge pier; plans and specifications from Gilles L. Arriett, Auditor.

Building Materials.—Green Cove Springs Feed & Milling Co., N. M. Coffey, Prest., Green Cove Springs, Fla.—Prices on building materials (iron or steel, etc.) for elevator and mill construction.

Boats.—Tolagen & Co., 61 Cours Balserie-Stutenberg, Bordeaux, France.—Correspondence, view to agencies in France for American steamers, sail boats, tugs, lighters, etc.

Building Material.—Dr. A. J. Edwards, Bristol, Tenn.—Prices on building material for about 30 dwellings, including roofing, electrical supplies, plumbing and locks.

Bulldozers.—H. T. Lambert Co., 718 First National Bank Bldg., Huntington, W. Va.—Prices on No. 4 Williams & White bulldozers, or other make of about same size. (See Machine Shop Equipment.)

Cable, Copper, Pipe and Tubing, etc.—Panama Canal, A. L. Flint, General Purchasing Officer, Washington.—Bids until Dec. 28 to furnish subterranean cable, copper, copper pipe and tubing, brass tubing, nuts, bolts, turnbuckles, screws, taps, ramers, axes, planes, pliers, swages,

shears, pipe fittings, cable thimbles, steam gauges, wheelbarrows, rubber boots, fire brick and paints; blanks, etc., relating to circular (No. 1245) obtainable at this office or offices Assistant Purchasing Agents, 24 State St., New York; 606 Common St., New Orleans, and Fort Mason, San Francisco; also from United States Engr. offices in principal cities throughout United States.

Cables (Mining Machinery).—Texas Oil, Gas & Mineral Products Co., 204 Gulf Bldg., Houston, Tex.—Addresses of manufacturers of "apparatus for transportation by cable, such as used in mountainous countries to develop minerals."

Canned Goods.—See Food Products, etc.

Canning Machinery.—Virginia Dare Hunt Club, R. F. D. No. 1, Shallotte, N. C.—Prices on canning outfits for vegetables, etc., including labels.

Cars (Side Dump).—Pennsylvania Equipment Co., 1420 Chestnut St., Philadelphia, Pa.—Prices on 4 all-steel, 50-ton capacity, extension, side dump cars.

Carriage (Piledriver).—E. Dillon's Sons, Indian Rock, Va.—Prices on piledriver carriage. (See Saw.)

Cars (Mine), etc.—Producers & Consumers' Coal Co., John R. Cavanagh, Prest., 508 James Bldg., Miami, Okla.—Prices on mine cars, boilers, hoists, and T-rails of 8, 12 and 16-lb.; for installation Catale, Okla.

Cars (Coal).—Electric Machinery Equipment Co., 714 W. Van Buren St., Chicago, Ill.—Dealers' prices on fifty 30-in. gauge cars for handling coal.

Cars (Log, Passenger and Baggage).—Pennsylvania Equipment Co., 1420 Chestnut St., Philadelphia, Pa.—Prices on 10 second-hand, 60,000-lb. capacity log cars, solid steel trucks; also 42-in. gauge combination passenger and baggage coach.

Castor-oil Machinery.—American Castor Oil Co., 600 Colcord Bldg., Oklahoma City, Okla.—Prices on machinery, capacity 8 to 10 tons castor beans per 24 hours.

Clay.—Higgins & Grant, 421 First Ave., New York.—Correspondence with manufacturers of washed clay adapted to paper trade.

Compressor (Air).—Union Mining Co., 615 City National Bank Bldg., Paducah, Ky.—Prices on air compressor. (See Mining Machinery.)

Conveying Machinery.—See Cables.

Dehydrating Machinery.—Jackson Brewing Co., Jefferson and Decatur Sts., New Orleans, La.—Prices on dehydrating machinery.

Canning and Preserving Equipment, etc.—C. W. Wiekling, 25 New St., Charleston, S. C.—Prices on equipment for small cannery and for making jellies and jams; to include glass jars and cartons.

Cars.—See Railway Equipment.

Concrete Mixer.—Dr. A. J. Edwards, Bristol, Tenn.—Prices on concrete mixer.

Cutting Machinery.—Lock Box 275, Crown Point, Ind.—Prices on 2 short wall 36-in. gauge Sullivan or Jeffery cutting machines.

Drag Road Scrapers.—Southern Paving Construction Co., Chattanooga, Tenn.—Prices for immediate delivery on fifteen 5-ft. "Fresnos."

Dryers (Sand).—See Mixers, etc.

Drills.—H. T. Lambert Co., 718 First National Bank Bldg., Huntington, W. Va.—Prices on drills, capacity 1 to 2-in. holes. (See Machine Shop Equipment.)

Electrical Supplies.—See Building Material (Dr. A. J. Edwards, Bristol, Tenn.)

Electrical Equipment.—Acup Creek Coal Co., Arthur L. Ware, Prest., Jeff. Ky.—Prices on following for coal-mining equipment: Two 72x18 R. T. boilers, 150-lb. W. P.; 150 K. W., 250-V., D. C., direct-connected unit; 150 K. W., 250-V., D. C. generator to 225 K. V. A., 3-phase, 60-cycle, 2300-V. motor; 1100 ft. 1 or 1½-in. by 3/8 P. S. rope; 2/0 Fig. 8 trolley wire.

Electric Machinery.—Lumberton Fiber Co., F. M. Huggins, Mgr., Lumberton, N. C.—Prices on electric machinery for small fiber mill.

Engine.—Franklin Soapstone Products Corp., Roanoke, Va.—Prices on 40 H. P. engine; Geyser preferred; first-class; second-hand.

Engine (Gas).—Shreveport Long Leaf Lumber Co., 1257 Murphy St., Shreveport, La.—Prices on gas engine.

Engines.—Edw. L. Davis Lumber Co., Louisville, Ky.—Prices on engines, for installation Mobile, Ala. (See Boilers and Engines.)

Food Products, etc.—J. M. Lomba, Box

268, San Juan, P. R.—Correspondence with manufacturers of following, with view to agencies: Plug tobacco; vegetable canned goods; corn meal; pork products, and general provisions; confectionery; hardware; dry goods.

Flour.—See Hay, Grain, Feed, etc.

Hardware.—See Building Material (Dr. A. J. Edwards, Bristol, Tenn.)

Hay, Grain, Feed, etc.—Evarts Wholesale Feed & Grain House, R. M. Williams, Prest. and Mgr., Evarts, Ky.—Prices on feeds, hay, grain, meal and flour; carload lots, f. o. b.

Hardware.—J. M. Lomba, Box 268, San Juan, P. R.—Prices on hardware, view to representation. (See Food Products, etc.)

Heating.—Toombs County Board of Roads and Revenue, S. I. Hussey, Chrmn., Lyons, Ga.—Bids until Jan. 6 for furnishing and installing steam heating plant in courthouse; plans and specifications at office Alexander Blair, Archt., Macon.

Hoisting Equipment.—Perrin & Thompson, Winter Haven, Fla.—Prices on small hoisting outfit with ¾-yd. orange peel bucket.

Hoists.—See Cars (Mine).

Hydraulic Ram.—See Water System (Isolated.)

Iron and Steel.—See Building Materials.

Jars (Glass and Cartons).—C. W. Wiekling, 25 New St., Charleston, S. C.—Prices on glass jars; also cartons. (See Canning and Preserving Equipment, etc.)

Leather Novelties.—A. A. Preston, 1603 M St., Washington, D. C.—Addresses of manufacturers of leather novelties.

Locomotive.—See Railway Equipment.

Labels.—See Canning Machinery.

Locomotives.—Electric Machinery Equipment Co., 714 W. Van Buren St., Chicago, Ill.—Dealers' prices on three 15 to 20-ton locomotives, 42-in. gauge; 6 locomotives, 30-in. gauge; about 10-ton.

Locomotive.—R. P. Johnson, Wytheville, Va.—Prices on 12-ton, 48-gauge, saddle-tank locomotive.

Machine Shop Equipment.—H. T. Lambert Co., 718 First National Bank Bldg., Huntington, W. Va.—Prices on No. 4 Williams & White bulldozers, or other make of about same size; 2 punches, capacity 1x1½-in. hole through 1½-in. iron; shears, 1½ to 2½-in. round and flat iron or soft steel; drill, capacity 1 to 2-in. holes; all belt driven.

Mill Machinery.—C. C. Keyser, R. F. D., Rt. A, Pensacola, Fla.—Data and prices on machinery for grist, feed and rice mill.

Motors (Electric).—Nathan Klein & Co., 208 Centre St., New York.—Dealers' prices on new or used electric motors.

Paving.—Florida State College for Women, J. G. Kellum, Business Mgr., Tallahassee, Fla.—Bids until Jan. 5 to construct 1500 lin. ft. paving and curbing driveway.

Machinery and Oil-well Supplies.—Texas Steel Products Co., Hines Bldg., Wichita Falls, Tex.—Prices on mechanical and oil-well supplies.

Marine Supplies.—T. M. Street, 300 Pacific St., Brooklyn, N. Y.—Addresses of dealers in marine supplies, Southern ports.

Mining Machinery (Fluorspar and Lead).—Union Mining Co., 615 City National Bank Bldg., Paducah, Ky.—Prices on complete equipment machinery for fluorspar and lead mining, including boilers, pumps, pipe fittings, air compressor, air and water tanks, hoists, ore buckets, jigs, etc.

Mixers, etc.—L. R. Hoover, 418 Whitney-Central Bldg., New Orleans, La.—Prices on mixers (dry and wet), sand dryers and molds for casting artificial marble, etc.; for installation in proposed plant of "Marble Company," to manufacture artificial marble and terra cotta, etc.

Molds.—See Mixers, etc.

Motors (Electric).—H. Wadham, Commr. Public Works, Bradenton, Fla.—Bids on two 11 H. P. Westinghouse motors, C1 type, No. 548, adapted to alternating current, for opening 2-leaf bascule bridge across Manatee River.

Partitions.—Treasury Department, Jas. A. Wetmore, Acting Supervising Archt., Washington, D. C.—Bids until Dec. 30 to construct office partitions in Treasury Annex; drawings and specifications at office Mr. Wetmore.

Perforated Metal (Tin), etc.—W. J. Palmer Mfg. Co., Roaring River, N. C.—Correspondence with manufacturers of tin cans, perforated metal and grain spouts made of tin.

Pumps.—See Mining Machinery.

Plumbing.—See Building Material (Dr. A. J. Edwards, Bristol, Tenn.)

Punches.—H. T. Lambert Co., 718 First National Bank Bldg., Huntington, W. Va.—Prices on 2 punches, capacity 1x1½-in. hole through 1½-in. iron. (See Machine Shop Equipment.)

Rails.—Electric Machinery Equipment Co., 714 W. Van Buren St., Chicago, Ill.—Dealers' prices on 25 mi. 25-lb. relaying rails.

Rails.—See Cars (Mine).

Rail-straightening Machine.—Southern Iron & Metal Co., Jacksonville, Fla.—Description and prices on rail-straightening machine.

Road Construction.—St. Lucie County Commrs., C. H. Edwards, Chrmn., Fort Pierce, Fla.—Bids until Dec. 21 to construct 4 mi. of road; plans and specifications on file with P. C. Eldred, Clerk.

Rope.—See Electrical Equipment.

Railway Equipment.—Osceola Cypress Co., Bridgend, Fla.—Prices on 45 to 50-ton locomotive, Mogul type, good condition; 25 to 30 standard flat cars, 40 ft. long, capacity at least 50,000 lbs.; 200 to 300 tons 56 or 60-lb. rail.

Refrigerating Machinery.—C. C. Keyser, R. F. D., Rt. A, Pensacola, Fla.—Prices on small refrigeration plant; for use in connection with dairy.

Roofing.—See Building Material (Dr. A. J. Edwards, Bristol, Tenn.)

Saw (Cord Wood).—Thos. F. Taylor, Palmetto, Fla.—Prices on machine saw for cord wood; good condition. (See Stump Puller, etc.)

Shears.—H. T. Lambert Co., 718 First National Bank Bldg., Huntington, W. Va.—Prices on shears, 1½ to 2½ in. (See Machine Shop Equipment.)

Shovel (Steam).—Franklin Soapstone Products Corp., Roanoke, Va.—To lease ¾-yd. traction revolving steam shovel, with privilege of purchasing.

Saw.—E. Dillon's Sons, Indian Rock, Va.—Prices on Whitney saw for stave mill; also piledriver carriage.

Sewer Construction.—Commrs. Sewer Improvement District No. 2, Morrillton, Ark.—Bids until Dec. 30 to construct sewer system, consisting of 15,900 lin. ft. vitrified pipe, 51 manholes, reinforced concrete septic tank, etc.; plans and specifications on file with City Recorder, Morrillton, and Harrington, Howard & Ash, Const. Engrs., Kansas City, Mo.

Sewer Construction.—City of Martinsburg, W. Va., T. W. Sparrow, Commr. of Streets, Martinsburg, W. Va.—Bids until Dec. 21 to construct sewer from Porter Ave. to Valley St.

Shafting, Pulleys, etc.—Shreveport Long Leaf Lumber Co., 1257 Murphy St., Shreveport, La.—Prices on shafting, pulleys, belting, etc.

Shelling Machines (Peanut).—F. W. Brode & Co., 119 Madison Ave., Memphis, Tenn.—Addresses of manufacturers of machines for shelling peanuts.

Shipbuilding Plant Equipment.—Electric Machinery Co., 714 W. Van Buren St., Chicago, Ill.—Dealers' prices on machinery to equip shipbuilding plant manufacturing ships of 500 to 1000 tons.

Shoe-polishing Machine.—J. F. Banister, Liberty, S. C.—Correspondence with manufacturers of electric machine for polishing shoes; prefer nickel-in-slot machine.

Soap Stock.—T. M. Street, 300 Pacific St., Brooklyn, N. Y.—Correspondence with manufacturers of or dealers in cottonseed fatty acids or soap stock; wants prices on carloads and less.

Spouts (Grain).—W. J. Palmer Mfg. Co., Roaring River, N. C.—Correspondence with manufacturers of tin grain spouts. (See Perforated Metal.)

Stave Mill.—J. P. Brown, Rainelle, W. Va.—Prices on second-hand stave mill for flour-barrel staves.

Stump Puller, etc.—Thos. F. Taylor, Palmetto, Fla.—Prices on one-man stump puller and machine saw for cord wood; good condition.

Textiles (Dry Goods).—See Food Products, etc.

Tin Products Manufacturers.—See Perforated Metals.

Tobacco (Plug).—J. M. Lomba, Box 268, San Juan, P. R.—Prices on plug tobacco; view to agencies. (See Food Products, etc.)

(Continued on Page 87.)

In writing to parties mentioned in this department, it will be of advantage to all concerned if the Manufacturers Record is mentioned.

Tex., Palestine—(Water-works).—City has sold to the Palestine Water-works Co. \$125,000 of 6 per cent. water-works warrants, dated Dec. 2, 1918, and maturing Dec. 1, 1933.

Tex., Beaumont — (Road). —Jefferson County, W. M. Carroll, Judge, asks bids until 10 A. M. Jan. 3 for \$190,000 of 5 per cent. bonds.

Tex., Brownsville — (Road). —Cameron County asks bids until 2 P. M. Dec. 23 for the entire issue of 5 per cent. 30-year road bonds. H. M. Skelton is County Auditor. Further particulars will be found in the Proposals Department.

Tex., Edinburg—(Canals, Ditches).—Donna District, Hidalgo County, is reported to have voted \$500,000 of bonds for canals and ditches. Address County Commrs.

Tex., Fort Worth—(Sewage-disposal Plant).—City will probably vote on bonds for sewage-disposal plant. Address The Mayor.

Tex., Montague — (Road). —Montague County, W. T. Russell, County Judge, has sold at par and accrued interest, less \$10,575, to Halsey, Stuart & Co., Chicago, \$200,000 of 5 per cent. \$1000 denomination bonds. Prospect No. 3, dated Dec. 1, 1918. W. A. Thomas is County Clerk.

Tex., Sherman—(Road).—Grayson County voted \$50,000 of bonds. Address County Commrs.

Va., Roanoke — (Market Improvement). —City Council is reported planning to offer for sale \$200,000 of market improvement bonds. Address The Mayor.

FINANCIAL NOTES

Glynn County Bank, Brunswick, Ga., will increase capital from \$75,000 to \$100,000.

The German Savings Bank, Chester, La., has changed its name to the Chester Savings Bank.

The Perry County State Bank, Hazard,

Ky., will increase capital from \$25,000 to \$50,000.

Marine Bank & Trust Co., New Orleans, La., has increased capital to \$800,000. L. M. Pool, Pres.

Ashland Day and Night Bank, Ashland, Ky., voted to increase capital from \$25,000 to \$50,000.

The Bank of Adairsville, Ga., Joe J. Boudoin, Acting Pres., is reported to have purchased the Farmer's Bank.

William G. Baker, Jr., of Baltimore, was elected president of the Investment Bankers' Association at its recent annual convention in Atlantic City, N. J.

West End Bank of Richmond (Va.), Inc., has amended charter changing name to the West End Bank of Richmond and increasing capital from \$50,000 to \$100,000.

The Commercial Bank & Trust Co., Covington, La. (E. J. Domergue, Pres.), recently organized with \$50,000 capital, has taken over the business of the liquidated St. Tammany Bank & Trust Co.

The Oklahoma State Bankers' Association at its annual convention held last week in Oklahoma City elected the following officers for the ensuing year: Chas. L. Engle of El Reno, president; W. F. Barber of Lawton, vice-president; W. C. Ernest of Oklahoma City, secretary; Lyman J. Gray of Guthrie, secretary.

J. Dukes Downes, bank commissioner of Maryland, reports the condition of the 155 State banks and trust companies in the State as of November 1, thus: Total resources, \$206,928,135.48, this including loans and discounts, \$91,940,303.25; stocks, bonds and other securities, etc., \$51,088,183.27; Government bonds, savings, thrift stamps and certificates, \$14,550,175.29; mortgages and judgments of record, \$12,880,645.57, and other items. Demand deposits amounted to \$92,919,225.99; time deposits \$61,299,120.45; city deposits, \$4,845,500.

W. E. Spencer, William Reagan, E. E. Gude and A. J. Ward, all of Eastland County, of which Cisco is the county seat. Headquarters at Cisco.

Tex., Eastland.—Eastland, Wichita Falls & Gulf R. R. Co., capital stock \$500,000, is chartered to build a line over 100 mi. long from May to Newcastle, Tex., through Brown, Eastland, Stephens and Young counties, to serve new oil fields. Incorporators, O. B. Colquitt of Dallas, Tex.; H. P. Brelsford and C. U. Connelley of Eastland, W. B. Munson, W. V. Calvert, Earl Conner, Tom Harrall, J. E. Butler, Fred W. Frost of Breckenridge, and B. S. Walker.

INDUSTRIAL NEWS OF INTEREST

"Thor" Office at Cleveland.

The Independent Pneumatic Tool Co. announces the opening of a branch office and service station at Cleveland, Ohio, on December 16. A complete line of "Thor" pneumatic and electric tools will be carried in stock at 1103 Citizens' Building under the management of Hayden F. White, who has represented the company in the Detroit, Chicago and Milwaukee districts for some years.

District Sales Manager Appointed.

The Edison Storage Battery Co., Orange, N. J., announces the appointment of George Simons to be district sales manager of its Detroit district. He succeeds Bertram Smith, who is now at Orange as assistant general sales manager. Mr. Simons, who has been with the company for three years, was previously with the old National Battery Co., Buffalo, N. Y., and the United States Lighting & Heating Co.

TRADE LITERATURE

Standardized Truss Units for Buildings. Milliken Brothers Mfg. Co., Inc., Woolworth Bldg., New York, has just published a new illustrated book, entitled "Space and Speed in Steel Buildings," giving a description of the "standardized truss unit system" of building construction, designed and manufactured by this company. This system is suitable for all classes of industrial and manufacturing buildings, making use of a simple, common structural steel unit both for columns and trusses. No plans are necessary, and the buildings are either permanent or portable. It makes possible low transportation and erection costs. The book shows a number of interesting half-tones, illustrating different buildings of this type constructed for the United States Government. Copies may be obtained free from the company.

We Finance

Electric Light, Power and Street Railway Enterprises
with Records of Established Earnings

We Offer

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Electric Bond and Share Company

(Paid-up Capital and Surplus, \$21,000,000)

71 Broadway

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MUNICIPAL AND CORPORATION BONDS PURCHASED

Correspondence invited from officers of Municipalities and from well established industrial corporations contemplating new financing.

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Established 1888

LOANS MADE TO STATES, CITIES, COUNTIES, ETC.

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Largest Capital and Surplus of Any Financial Institution in Maryland or Any Southern State.

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MERCANTILE TRUST and DEPOSIT CO.

OF BALTIMORE

A. H. S. POST, President

F. G. BOYCE, Jr., Vice-President

MR. CONTRACTOR

If you have any bonds or warrants to sell, or know where you can obtain work and take same in payment, kindly advise, so that we can negotiate with you for their purchase. We have representatives in Birmingham, Alabama, Tampa, Florida and New Orleans, Louisiana. Correspondence solicited.

W. L. SLAYTON & CO.

Toledo, Ohio



SERVICE

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BUSINESS PEOPLE

We will represent you in Washington and undertake the sale of your products to the Government and contractors for the Government.

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BLACK & COMPANY

Certified Public
ACCOUNTANTS

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Member American Institute of Accountants

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"YORK"

SAFES (all styles)
VAULT DOORS
BANK VAULTS

YORK SAFE & LOCK COMPANY, York, Pa.
7 WEST REDWOOD STREET, BALTIMORE, MD.

New York Chicago Philadelphia Boston New Haven Atlanta Pittsburgh St. Paul San Francisco

SAPULPA REFINING CO.

FUEL OIL—GAS OIL
GASOLINE KEROSENE

REFINERIES:
SAPULPA, OKLA.

MACHINERY, PROPOSALS AND SUPPLIES WANTED

(Continued from Page 85.)

Vulcanizers (Tire). —C. E. Palmer, 4th and Pine Sts., Texarkana, Tex.—Prices on tire-vulcanizing machinery.

Water System (Isolated).—Heard, Cardwell & Chesterman, Lynchburg, Va.—Data on water supply system (compressed air tank), pump, engine, etc., for school building, Rustburg, Va.

Water System (Isolated). —S. A. & S. Ford, Brookneal, Va.—Data relative to installation of farm water system; probably hydraulic ram; supply source is about 800 ft. distant and 40 ft. below proposed site for storage tank.

Water-works and Filter Plant.—City of Poteau, Okla., A. W. Lindsey, City Clerk.—Bids until Jan. 31 to install water-works and filter plant: includes brick pumping station; brick filter-house; sedimentation basin; reservoir; two 100 H. P. boilers; 2 high-service pumping engines; 3 steam-engine or turbine-driven centrifugal pumping units; 2 duplex boiler-feed pumps; condenser and air pump; steam and water piping; filter equipment for 2 tanks; concrete overflow dam; 3½ mi. cast-iron pipe, valves, hydrants; plans and specifications at office of City Clerk, or obtainable from J. E. Davis, Engr., Poteau.

Wheels.—C. L. McIntosh, 618 Henry St. & W., Roanoke, Va.—Prices on wheels; 6, 7½ and 9-in. diam., with 5 spokes ¾-in. face, and hub 1½-in. with ¾ holes.

Woodworking Machinery. —C. L. McIntosh, 618 Henry St. S. W., Roanoke, Va.—Prices on small power woodworking machines, for cabinet-makers' use, bench work (fine work).

RAILROAD CONSTRUCTION

RAILWAYS

Ark., Cushman.—Martin Manganese Co., it is reported, will make survey soon for construction of a railroad 9 mi. long, from Phosphate spur to near Anderson.

Tex., Cisco.—The directors of the Cisco & Northwestern Railway Co., recently chartered with capital stock of \$500,000 to build a line from Cisco to Graham, Tex., 70 mi., are: E. Q. Lee, G. D. Ward, C. H. Fee, R. W. Mancill, J. H. Garner, G. C. Lingle, J. E. Blitch, B. S. Huey, E. R. McDaniels, D. E. Jones, F. E. Harrell, J. R. Skinner, J. A. Lauderdale, J. J. Butts, D. K. Scott,

MECHANICAL

Illustrations and descriptions having news value pertaining to developments in machinery, mechanical devices and inventions will be considered for use in this department.

Plant Analysis for Belting Requirements.

In many plants there are a number of drives which are extremely exacting on belting, requiring the closest attention to the problem of fitting the proper belt to secure maximum results. The very best and most expensive machinery may fail to deliver its daily quota of product owing to selection of the wrong type of belt or because of improper application of the right type. And many plants that are receiving belting returns eminently satisfactory are doing so at an excessive cost, which could be reduced by the introduction of types of belting better adapted to the particular work performed.

This was illustrated recently in the experience of a large cottonseed-oil plant near El Paso, Tex., which had just completed a large addition and arranged for its belting equipment with the construction company that put up the new buildings, this company being a subsidiary of the cottonseed-oil company, which placed them in the position of buying belts of themselves.

However, the Goodyear Tire & Rubber Co. secured

plant analysis system, which in hundreds of other instances has been of great value to manufacturers in determining their belting requirements.

Carbon Steel for Tool Manufacture.

The appended communication concerning the use of carbon tool steel instead of alloy steels for the manufacture of machine and other tools will doubtless be perused with interest by metallurgists, tool manufacturers, dealers in tools of all kinds, as well as users of tools, in addition to other individuals who may be interested in one way or another in all that tends to improve products and at the same time cheapen costs of production.

Carnegie Steel Co.,

Pittsburgh, Pa., December 9, 1918.

Editor Manufacturers Record:

Careful experiments which have been made by Carnegie Steel Co. in its own machine shops and in actual use at its various works indicate that there are many purposes where a well-made carbon tool steel can be utilized in the manufacture of tools where heretofore alloy steels have been utilized. It has been possible by the use of carbon steels to reduce the cost of machine and other tools without material loss either in endurance or in speed of operation.

On the basis of these experiments and considerations

after all, are the essential points in the heat treatment of steels.

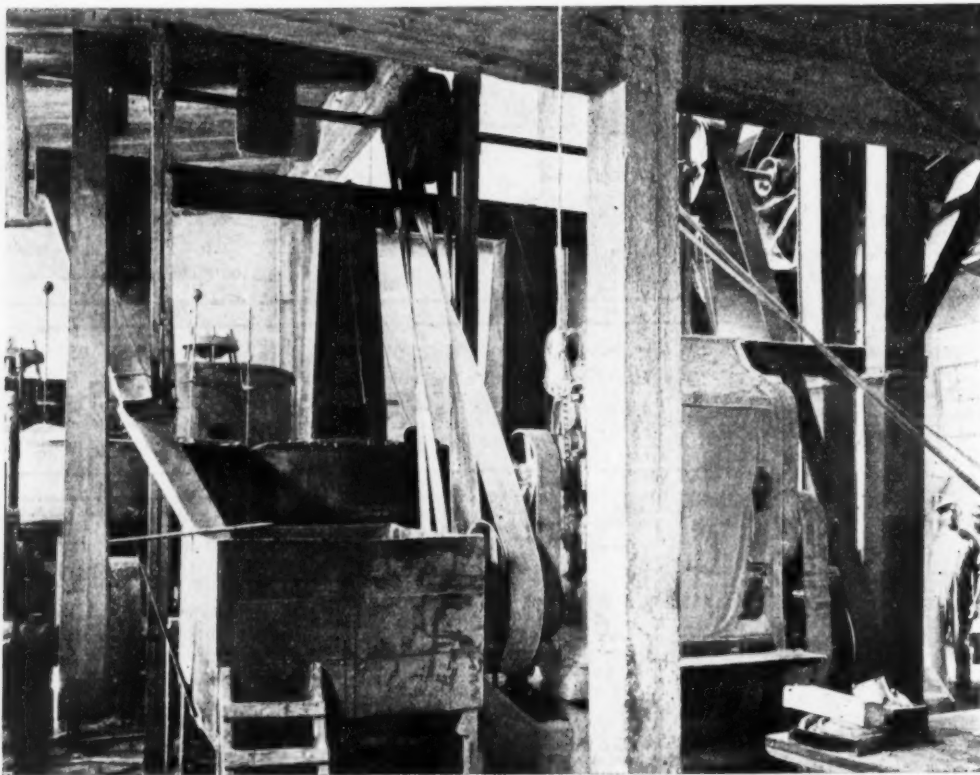
2. In standard works of reference on metallography and heat treatment it is possible to find figures illustrating the changes which take place in various kinds of steels under heat treatment. These, however, as a rule, steels of different carbon content, alloy steels, etc., so that a direct comparison is not possible. The illustrations of the Metcalf test pieces and the full-sized test piece fractures on pages 8 and 9 are made from specimens treated and tested at our own shops for purposes of publication in this pamphlet, and therefore admit direct comparison. The blacksmith who would test Carnegie Electric Tool Steel No. 1 in the manner indicated should get identical results.

3. The chart of heat colors with its corresponding heat-treating temperatures are in like manner based on carbon steels. Names of colors have been selected to conform to most general uses, and are checked by indication of temperature in degrees Centigrade and Fahrenheit.

4. The chart of temper colors in the form presented is likewise entirely new. It is a direct reproduction by color photography from test pieces heat treated to the temperature shown. It affords a direct comparison by the blacksmith in the shop whereby it is possible to eliminate the effect of different lighting conditions. The pages devoted to reproduction of labels also specify the various uses for each different grade of steel and permit the selection of the proper grade for any particular use with the least danger of the selection of the wrong kind of material.

CARNEGIE STEEL CO.,

R. B. Woodworth, Advertising Manager.



COTTONSEED-OIL MILL WITH BELTING ON PLANT ANALYSIS SYSTEM.

permission to make a "plant analysis" which is a regular part of its service to buyers of mechanical rubber goods, and made recommendations in conformity with its investigation findings of the plant's belting needs. A comparison of the equipment recommended after this analysis of the needs of the plant with the equipment suggested by the construction company showed that there existed a smaller difference in price than was anticipated between the suggested belting as against the belting that had already been arranged for. The superintendent was convinced and accepted the recommendation included in the plant analysis, installing the belting equipment suggested. The belts used ranged from 1½ inches to 14 inches.

This plant operates but a few months in the year, yet in the past it has not been uncommon to replace belts in the middle of the short season. At the end of the first season of the use of these belts, however, all of them were in good condition and most of them were transferred to other machinery, used the year around, where they are still running and in good condition.

The performance of these various sizes of belting, operating under many diverse conditions, with such eminently satisfactory results, and duplicate orders secured covering the next season's needs, replacing the belts that were transferred to other mills owned by the company, are regarded as a complete vindication of this

the Carnegie Steel Co. is now prepared to offer to the trade a new line of tool steels made in its electric furnace at Duquesne Steel Works in five grades. These five grades contain different proportions of carbon, are suitable for different uses, and in manufacture and shipment are distinctively designated by appropriate labels of different colors. To introduce these tool steels it has issued a new publication entitled "Tool Steels," a copy of which is sent you herewith. * * *

At present, in the stage of introduction and owing largely to the short-length pieces ordinarily required, tool steels will be marketed through its warehouses at Allston, Mass.; Newark, N. J.; Baltimore, Md.; Pittsburgh, Pa., and Cleveland, O.

In connection with this pamphlet I desire to call your attention to certain features distinctive in this publication. * * *

1. The pamphlet is intended for the actual user of tool steels, and therefore contains essential practical information without an extended discussion of the theories of heat treatment. The words "critical temperature" and "critical range" have been eliminated with all the theoretical discussions of austenite, troostite, sorbite, pearlite, cementite, etc., and their transformations which cumber much of the current literature. In lieu of these designations reference is had to "line of hardening" and "minimum grain size," which,

Has Inspired Men and Women to Fight and Win.

REV. JNO. W. MOORE, Pastor Trinity Church, Charlotte, N. C.—I sincerely thank Mr. Darr for having sent me the MANUFACTURERS RECORD. I have greatly enjoyed it and have passed to others every copy. The MANUFACTURERS RECORD has done vast good all over the world in inspiring men and women to fight—and win—for civilization. When the Kaiser and his wretched accomplices in devilry are executed and the remainder of the diabolic hordes are properly subdued I think all loyal, true people, who know of your fine work, will heartily appreciate you.

Has Kept Before the People the Burning Questions of the Day.

C. F. DYER, Attorney at Law, Enid, Okla.—I am enclosing an order to extend my subscription.

While I resided at Geary, Okla., and was city attorney, I received your publication, which I read with a great deal of interest, principally because of the wonderful effort which you made to keep before the public the burning question of the day. I heartily approve your action, and sincerely hope that you and your good magazine will continue on indefinitely in the great work which you have undertaken.

We all realize that this country contains within its boundaries entirely too many people who are passive in their loyalty. To concentrate the mind of every American toward his one duty of undivided loyalty requires great effort, but the effort and the reward that is sure to come is worth most any price.

I feel that you and your paper have done as much if not more than any other agency to bring about the conditions in this country which are necessary for the self-preservation of the nation itself.

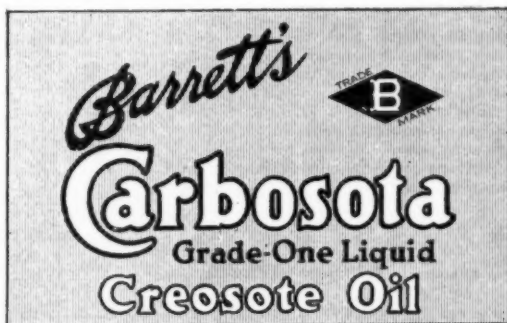
With the kindest regards and with an appreciation of the privilege of having read your magazine, I am, etc.

America Should Be Modest.

M. P. CARTER, Stuart, Fla.—Issue of October 31 is before me. Enclosed check for six months' subscription. Am not interested in your line outside of Americanism. In that line I endorse your sentiments and feel positive your editorials will more than reimburse me.

We want no "Healing Peace." By "we" I mean real Americans, many of whom, like myself, descend from sires who struggled and fought from the early Colonial to the Mexican War, and I wonder whether the "He Americans" vote tally on November, 1920, won't total largely in excess of those of the "Pros and Pacifists." The co-partnership of "Me and Gott" has dissolved, and I much doubt the Allies will permit "I, House & Co.," to seriously interfere with Germany's proper punishment and full reparation for her damnable crimes against civilization. Let us hope we and our children may be able to look the peoples of the world fairly in the eye in the years to come and not be obliged to lower them more than is already necessary from a recollection that we elected a man by a majority vote under the slogan "He kept us out of war." It surely behooves America to be most modest at the peace table. The loss of treasure, both of life and property, due to our failure to enter the war when every call of honor, humanity, self-interest, demanded our entrance, will, in my opinion, be considered quite seriously in the not distant future. We don't yet realize what all these billions, largely wasted, at least diverted, mean to the world.

December 19, 1918.]



Spraying: Applying Carbosota to ends, mortise, and tenons (points of contact) of caps and stringers for trestle.

"The Unpardonable Sin"

"The unpardonable sin of the business world of the future will be—waste."

"Waste of material or labor—of time or of money—and only less heinous in degree than the sin of commission will be the sin of omission."

These quotations are extracted from an excellent editorial of the same title appearing in the October 15th issue of "The Gulf Coast Lumberman." They are equally applicable to the waste that results from failure of protecting structural wood against decay.

The "Sin of Omission" is neglecting to become informed regarding the practice of wood preservation and the potential economy of its application.

The "Sin of Commission" is wilful disregard of the factor of durability—the attitude of "taking a chance": the erection of timber structures where influences favorable to decay are known to exist, without employment of remedial measures.

Preservation of structural wood from decay is essentially a *conservation measure*, and therefore beneficial to the *entire nation*.

Non-pressure processes—i. e. the Open Tank Process and Surface Treatments, such as brush applications, spraying or dipping are particularly adaptable to the conditions of average consumers and are *practical* as well as *efficient*.

Full information, specifications, etc., and an analysis of any particular case by experts may be obtained gratis by addressing nearest office.

The Barrett Company

New York Chicago Philadelphia Boston St. Louis Cleveland
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Sydney, N. S.

(Green wood cannot be effectively creosoted by non-pressure processes. It should be air-dry. In regions of moist, warm climate, wood of some species may start to decay before it can be air-dried. Exception should be made in such cases, and treatment modified accordingly.)



Brush-treating facing surfaces of ship timbers with Carbosota.



The Open-Tank Process: Simple wooden tank (lined with sheet iron) equipped with steam-coils and small derrick. Upon completion of the hot treatment, both oil and timber are permitted to cool instead of being transferred to a cold tank.

Classified Opportunities

MINERAL AND TIMBER LANDS WATER POWERS MISCELLANEOUS PROPERTIES

CALCIUM CARBONATE

CALCIUM CARBONATE — Can supply large consumers pure calcite for making nitro-lime, whitening Paris white, sugar refining, rubber manufacturing, etc. Daily output 300 to 600 tons. E. C. Brannon, 563 Candler Annex, Atlanta, Ga.

COAL LAND AND MINES

FOR SALE—Coal lands and mine. Coal mine located one mile from Southern Railroad and being operated as wagon mine. Good grade for railroad track. 600 acres for sale. Box 73, Huntsville, Tenn.

FOR SALE—Bituminous coal mine, ready for operation. Unique opportunity for practical coal operator. Best of reasons for selling. Principals only apply to C. I. Millard, care Waldorf Astoria Hotel, New York, N. Y.

COAL AND TIMBER LAND

FOR SALE—Bargain; 90,000 acres Tennessee coal and timber land in parcels of 5000 to 10,000 acres, or together, \$3.00 to \$10.00 per acre; part on railroad, part fine virgin timber; good titles; exposures of highest grade coking coal. Owned by estates. E. H. Benoit, 1921 Boatmen's Bank, St. Louis, Mo.

LOANS ON TIMBER LAND

SALES NEGOTIATED
Check Estimates for Loans on Timber Lands. Consulting Forester and Timber Land Factor. 25 Years' Experience All Parts of Country. F. R. MEIER, New York, N. Y. 165 Broadway.

TIMBER

300,000,000 FEET VIRGIN PINE.
We own and can offer for sale three hundred million feet of virgin pine timber in Palm Beach County, Florida, in a solid body, at \$2.50 per M. Will divide tract. Reasonable terms.

For full particulars address owners.
SOUTHERN STATES LAND & TIMBER COMPANY,
West Palm Beach, Florida.

FOR SALE — Fifty million feet of fine South Carolina timber, consisting of thirty-nine million feet red gum, five million oak, three million cypress, three million short-leaf pine. This timber is very large and of fine quality; easily logged at any time of the year. Price reasonable. Accessible to railroads. Will bear closest investigation. Address No. 5033, care Manufacturers Record.

FOR SALE—300,000,000 feet of pine and fir, desirably located in Oregon. Can be purchased at special bargain of \$1 per 1000 stumpage. Address H. H. Wefel, Jr., Mobile, Ala.

TIMBER LAND

INVEST IN HARDWOOD.
Big, legitimate and permanent profits. The one natural resource rapidly going out of existence. 100,000 acres virgin hardwood timber lands in Arkansas, Louisiana and Mississippi guaranteed estimate by forities. Write Owners—Arkansas Timber Land Company, Incorporated, 401-403 Southern Trust Bldg., Little Rock, Ark.

1000-ACRE TRACT good marketable timber, in fine Southern Penna.; good roads and shipping facilities. Price reasonable. Geo. A. Harris, 508 Fidelity Bldg., Baltimore, Md.

FARM AND TIMBER LAND

WE OWN LARGE TRACTS OF TIMBER LANDS, cut-over lands and colonizing lands. If interested, address H. H. Wefel, Jr., & Co., Mobile, Alabama.

FRUIT, FARM AND TRUCK LANDS

ALABAMA

FOR SALE—12,000 acres fine cut-over land, South Alabama, river landing, four miles from county seat. Nice railroad town. Colonization proposition. Sacrifice price \$6 acre. J. B. Dryer, Title Bldg., Birmingham, Ala.

ARKANSAS

2720 ACRES—THE VERY BEST BOTTOM LAND.—Opportunity knocking at some man's door. A chance to buy one of the best tracts of land in the State at a price far below its actual value. This land lies between McGehee and Dermott on the Valley Railroad. The Arkansas-Louisiana Highway runs through this land, the building of which will greatly enhance the value. Lies just above the high-water mark of the Mississippi River and well drained; 600 acres in cultivation, with good wire fence around the cultivated land. Has necessary tenant-houses. Price \$30 per acre; on terms of \$11.60 cash, balance over a period of 10 years at 6 per cent. interest, and if the purchaser desires, the first five yearly payments may be made small. O. L. Eaton, 213 West Second Street, Little Rock, Arkansas.

FLORIDA

THE LAND OF SUNSHINE.
Get away from buying coal, Northern blizzards and worries of war. It's as cheap to live at Hotel Palms, West Palm Beach, Florida, as at home. Write manager for instructive booklets and rates.

RATES AND CONDITIONS

Rate 25 cents per line per insertion. Minimum space accepted, four lines. In estimating the cost, allow seven words of ordinary length to a line. When the advertisement contains a number of long words, proper allowance should be made. Terms: Invariably cash with order; check, postoffice or express order or stamps accepted. No display type used. Questionable or undesirable advertisements will not be accepted. The assistance of our readers in excluding undesirable advertisements is requested. We reserve the right to refuse any advertisement. No patent medicine, whiskey or mining stock advertisements accepted. Rate for special contracts covering space used as desired within one year as follows: 100 lines, 23c. per line; 300 lines, 21c. per line; 500 lines or more, 20c. per line.

FLORIDA

A BEAUTIFUL WINTER HOME, a profitable orange and grapefruit grove, a general farm, cattle, hog or poultry ranch in the famous Indian River section, Vero, Florida. The wonderful climate permits not only agricultural operations all the year, but all enjoyable, life-prolonging outdoor sports. Investigate now this wonderfully charming section. Indian River Farms Company, First National Bank Building, Vero, Florida.

FOR SALE—Two separate tracts of land, containing 8800 and 10,800 acres, respectively. The former is situated on the West Florida Gulf coast in two miles of a city of 3500 population for \$6.50 per acre, and the latter on railroad twelve miles from same city for \$2.50, land only. Exceptional good proposition for either hog or cattle range or agricultural purposes. Address Box 355, Apalachicola, Fla.

FOR SALE—2500 acres on scenic highway, near Avon Park, Fla., on Coast Line Railroad; beautiful lake region; five large lakes in and adjoining tract; splendid colonization proposition; diversified lands; 2000 acres first-quality citrus; 300 acres muck bog, 200 acres black-sand bog; very rich. Price very low in comparison to other lands in this locality. E. H. Youngs, Jr., owner, Lakeland, Fla.

6500 ACRES IN FLORIDA. — Wholesale price; will not retail. Located on the East Coast, in Volusia County. Price \$6 per acre. 8 miles west of New Smyrna, Fla., on the Orange City branch of the Florida East Coast R. R. 2250 acres are "prairie land." Has an elevation of 22½ to 41 feet above tidewater; top soil is a black sandy loam, underlaid with clay. Would make an ideal stock range. Title good. Owned in fee-simple, without incumbrance. Other information will be furnished upon request by E. C. Howe, 749 Hartford Bldg., Chicago, Ill.

50,000 acres, Lee County, \$5.50.
200,000 acres cattle lands, \$5.50; terms, 10 years.
18,000 acres timber, in fee, \$5.50.
64,000 acres timber, in fee, \$8.00.
10,000 acres muck land, trucking, \$10; terms, five years.
50,000 acres cattle ranch, fenced, dipping vats, \$6.00.

Which of these interest you? For wholesale lands, write Sadler, Fort Myers, Fla.

GEORGIA

FOR LEASE OR SALE—2500-acre stock farm in healthy middle Georgia, partly stocked with Hereford cows and Duroc hogs; all fenced with hog wire; 1000 acres cultivated by croppers; 20 mules and farm implements; never-failing water in every field. A well-established farm, but requires money to keep it going. Lease \$2500 per year. Sell everything for \$50,000. Full particulars on request, J. C. Burruss, owner, Empire Bldg., Atlanta, Ga.

FOR SALE—Between 700 and 800 acres in White county, Ga.; 400 to 500 acres well adapted to fruit growing, balance good pasture; waterfowl to 100 feet; 2 dwellings; corn, wheat and feed mill, other buildings. Quick sale, \$18,000. W. L. Hobbs, Gainesville, Ga.

LOUISIANA

NOTED TRUCK FARM IN LOUISIANA. Twice reported in columns of Manufacturers Record. Owner aging. Business getting too large. 25 years' success. Write Son, Box 82, Mt. Vernon, Ohio.

MARYLAND

MARYLAND MILD CLIMATE FARMS.
On the beautiful Eastern Shore, land of the evergreen, where showers and sunshine meet in a perennial spring.
50 acres, 75 acres under the plow, in fine state of cultivation; natural stock farm, on State road, two miles of railroad station; Colonial house of 7 rooms, large barns and stables; \$1000 worth of standing timber; orchard. For quick sale only \$3500. Terms. Call or write J. A. Jones, Salisbury, Md.

FOR SALE—One of the best Montgomery county (Maryland) farms; 300 acres, 35 of which are in the finest timber; any number of locust trees; located on State road one mile from grain market and cannery factory; 30 miles from Washington; State road the entire distance; good orchard; water in every field during entire year; 12-room house, 3 barns and all necessary outbuildings. This property is a big money-maker at the price asked, \$85 per acre. Address Potts & Griffin, Frederick, Md.

MISSISSIPPI

FOR SALE—2200 acres in Washington county, Miss., east of Hollandale; part under cultivation; manager's residence, 25 tenants' houses, barns, sheds, etc.; 5 miles river frontage; good drainage. Price reasonable; good terms. Address Box 401, Vicksburg, Miss.

FOR SALE—General farms, stock farms, truck farms, from \$10 to \$100 per acre. Write me what you want. Walker Wood, Winona, Miss.

NEW MEXICO

LAND SCRIIP

For Sale.
Good to locate surveyed or unsurveyed land. Hugo Seaberg, Raton, New Mex.

TEXAS

TEXAS FARMS AND RANCHES FOR SALE.—We make a specialty of selling, loaning and refinancing large ranch and farm properties. Let us know what you want. United States Loan and Investment Company, Practorian Building, Waco, Texas.

BUSINESS OPPORTUNITIES

FARMING OPPORTUNITIES AND INDUSTRIAL SITES along the Winston-Salem Southbound Rwy. Co. Here climate, soil, transportation, good roads, fine schools and excellent markets contribute to the success of farming, and the large and prosperous industrial centers along our lines offer splendid locations for industries of various kinds. Address S. P. Collier, Jr., Winston-Salem, N. C.

FOR SALE—About 400,000,000 feet of pine, together with large operating mill plant on Atlantic Coast. Special bargain. Good reason for selling. Address H. H. Wefel, Jr., Mobile, Ala.

MOVING-PICTURE SHOW and equipment, with building; own lighting plant; good river town; population 300; no other amusement in town; no railroad; does fine business. Price, \$7500, building and equipment. Doing an extra good business.

300 acres Ohio River bottom land; two sets buildings; good corn land. Price, \$46,000. John R. Woods, Asst. Cashier National Bank, Rising Sun, Indiana.

MEN'S FURNISHING BUSINESS FOR SALE IN FLORIDA.—One of the best-equipped stores; located in town of 8000 people; the best lines of merchandise carried, such as Nottleton shoes, Manhattan shirts, E. & W. collars, and other lines in keeping with these. Only exclusive men's store in city. Big opportunity for party with some capital. Have best corner location in the town, and two-year lease. Address No. 5230, care Manufacturers Record, Balto., Md.

MARBLE, MARBLE.—New discovery of tremendous value, found while searching for phosphate. In Tennessee; strata total nearly 100 ft.; colors, grays, antique, bronze and Belgian black, of superior quality. Will make attractive offer to party with capital to equip quarry and build two miles of railroad. Sale of output assured. Come and see it. Address No. 5229, care Manufacturers Record, Balto., Md.

WANTED—Reliable party able to make dependable contract to load for me 10,000 or 15,000 cubs of gravel at rate of about 5000 per year, and more if required, at reasonable price. Southern State, east of Mississippi. Give information first letter. Address No. 5231, care of Manufacturers Record.

FOR SALE—Controlling interest in hardwood timber land; own sawmill; building tram railroad; \$4000 down; easy terms; business can be built up to \$500,000 proposition; owner, elderly professional man, must return to city. Address C. M. T., care Avery County Bank, Newland, N. C.

WANTED—Concern to manufacture in quantities, and possibly help put on the market, a new "luggage carrier" to be attached to automobiles. Easily made and sure to sell. Ed L. Evans, Jewett, Texas.

FOR SALE—150-acre farm with good improvements; creek bottom and good upland; also small stock hardware in nearby town; all on Govt. pike. C. W. Abel, Chickamauga, Ga.

PATENT FOR SALE.—A practical hand cultivator. Small beets, lettuce, onions, etc., are isolated from the times by means of adjustable knives, which also form fenders. W. E. Reid, 1111 Aylor St., Webb City, Mo.

BUSINESS OPPORTUNITIES

FOR SALE—Splendid bay front lot, 1000 feet. Also a findings store and shoe factory, fully equipped, doing good business. John Sutter, Clearwater, Fla.

FOR SALE OR LEASE—Brick mill building, 150 H. P. boilers and engines, 45 miles from Atlanta, Ga.; adapted for various manufacturing, cattle feed mixing, knitting, etc. Railroad running four directions. P. O. Box 1443, Atlanta, Ga.

I HAVE PATENT on automatic rat trap for sale, or will accept royalty. John R. Corgan, Inventor, Prior Lake, Minnesota.

HIGH-GRADE BUILDERS' SUPPLY BUSINESS: 15 years exclusive agency would sell account of health. Address P. O. Box 848, Jacksonville, Florida.

A GOING CONCERN, manufacturing automobile article of widest unquestioned utility, must move from present quarters and enlarge its scope to derive full value from its most valuable patent. Wants connections with large manufacturing concerns who has steel presses, machine tools and suitable buildings, and most especially highest class engineering manufacturing organization. We don't want to sell out; we are willing to put more substantial capital into already considerable investment. We hope this advertisement will reach the eye of a concern who has the manufacturing plant and organization and wants to utilize one and hold the other one together. Location must be east of Chicago. Address Manufacturer, P. O. Box 151, Cleveland, O.

HIGH-CLASS MANUFACTURING of wholesale lumber company, holding valuable location and opportunity, desires to increase capital from \$50,000 to \$100,000. Have position for experienced hardwood office man; also manager of entire hardwood operation. Don't apply unless you have both capital and ability. Or we offer an absolutely new and profitable investment for money without service. Good investment for retired businessman; the funds of an estate; or we use a young man with capital and energetic ability who desires to learn the lumber business. Address No. 5195, care Manufacturers Record, Baltimore, Md.

SALESMEN VISITING the larger industrial plants and public institutions of the beaten trail can materially increase their income by representing manufacturer of essential specialty on commission. Salary, about \$75—commission 20%; no money paid and very little time necessary. Klinge Bros., Inc., 1755 Berteau Ave., Chicago.

LET US INCORPORATE your business. Capital secured for meritorious enterprises. Herbert, 905 Webster Bldg., Chicago, Ill.

MAKE DIE-CASTINGS.

Sketch, booklet.
Sample and proposition, 1c.
R. Byrd, Box 257, Erie, Pa.

FOR SALE—Practical labor-saving device that has been thoroughly demonstrated and has passed the experimental stage. Now being manufactured by the patentee. We give rigid investigation. Satisfactory results given for wanting to sell. Address No. 5230, care Manufacturers Record, Balto., Md.

WANTED—To make loan on factory located at New Wilson, Okla. For full particulars write the Sun Light Carbon Co., Wilson, Okla. Preferred risk loan \$25,000. Assets \$70,000. First mortgage loan at 10 cent, for 12 months.

WONDERFUL INVENTION FOR SALE. A lock-nut washer which binds the nut forever; simple to remove, simple to replace; simple to make. Want to capitalize on patent. Apply R. M. Burt, Hastings, Mo.

HOTEL FOR SALE

FOR SALE—25-ROOM TOURIST HOTEL on St. Lucie River, at Palm City, Fla., on Dixie Highway. Splendid fishing, fresh and salt water; best hunting ground in the State. Hotel completely furnished with modern conveniences, beautifully landscaped and terms very reasonable. Address Palm Beach Improvement Co., Drawer West Palm Beach, Fla.

GOVERNMENT CONTRACTS

WILLIAM J. DOW announces that he now located at 201-227 Colorado Building, Washington, D. C., where he will give attention to matters relating to Government contracts, licenses, income and war war boards, admiralty and Court of Claims.

WASHINGTON REPRESENTATION

WASHINGTON REPRESENTATION Send for pamphlet giving names and addresses of the courts, departments and bureaus, with other information, free. Obtain information and clearing-house material. Clearance Bureau, Inc., Loan Trust Bldg., Washington, D. C.

Classified Opportunities

LEGAL ADJUSTMENTS

LEGAL SERVICES of every nature any income tax and other claims. Representation before Congress, all courts, Gov. and committees. Corporations organized everywhere. Est. 1903. E. O. Legal Corporation, Washington, D. C.

INCORPORATING COMPANIES

DELAWARE CHARTERS Stock Without Par Value. Directors Need Not Be Stockholders. Write for new DIGEST (4th ed.). **CORPORATION COMPANY OF DELAWARE** Reliable Building, Wilmington, Delaware.

TRADE ACCEPTANCES

"Trade Acceptance" forms supplied. Reasonable sample. Commercial Form Co., P. O. Box 5, N. J.

PATENT ATTORNEYS

PATENT YOUR IDEAS.—\$9000 offered for certain inventions; book, "How to Obtain a Patent," and "What to Invent," sent free upon request; send rough sketch for free report as to patentability. We advertise your patent for sale at our expense. Chandler & Chandler, Patent Attorneys, 978 F St., Washington, D. C.

PATENTS.—Booklet free. Highest references. Best results. Promptness assured. E. E. Coleman, Patent Lawyer, 624 F St., Washington, D. C.

PATENTS, TRADE-MARKS AND COPYRIGHTS.—Write for list of patent lawyers and inventions wanted. \$1,000,000 in prizes offered for inventions. Send sketch for free report as to patentability. Our four books sent free. We assist inventors to sell their inventions. Victor J. Evans Co., Patent Attorneys, 712 Ninth St., Washington, D. C.

PATENTS AND TRADEMARKS secured by a former Examiner Official of the U. S. Patent Office. **NORMAN T. WHITAKER**, Mechanical Engineer, Attorney-at-Law, 202 W. Whitaker Bldg., Washington, D. C. Inquiries Invited

FACTORY SITES

BALTIMORE FACTORY AND TERMINAL SITES.—Statement of Asa G. Candler, President of The Coca-Cola Co.: "Investigation conducted us that Baltimore is not only the commercial metropolis for Southern trade, but that it affords shipping opportunities for water and rail for domestic and foreign traffic superior to any of the great cities in any section of the United States." Site in Baltimore and derive these advantages. We can provide accommodations to your requirements.

"OUR MOTTO": **FACTORY AND TERMINAL SITES IN BALTIMORE.** Wm. B. Martien & Co., 14th Floor, Lexington St. Bldg., Balto., Md.

MOTOR TRUCK FACTORY ideal location for motor truck or automobile factory or assembling plant, near tide-water, surrounded by abundance of raw materials. Would take interest ourselves and like to correspond with manufacturers seeking location or with man of experience, ability and means who would organize and manage a company. Talltimber Lumber Company, Talltimber, Sabine County, Texas.

FACTORY SITE OF 44 ACRES, facing B. & O. Railroad, adjacent to Baltimore, the site of the wonderful industrial growth, with more opportunities than any other factory site. Numerous other sites on land and water. For particulars address E. E. Ferguson & Co., 230 St. Paul St., Baltimore, Md.

INDUSTRIAL PLANTS FOR SALE

SAW MILL, STAVE, HEADING PLANT, ETC. **FOR SALE.**—Valuable sawmill, stave and heading plant in Eastern North Carolina; accessible to both pine and gum timber; water and rail transportation; brick drying and all other appointments of a first-class property; stave and heading machinery recently newly installed. Address "Staves & Lumber," Box 167, Burgaw, N. C.

BAND MILL **FOR SALE.**—Stearns 8-ft. band mill, with power plant, filling-room machinery and full equipment. Immediate possession. Full description on request. Clear Fork Lumber Co., Enfield, Tennessee.

ICE PLANT **FOR SALE.**—Business Opportunity.—Henry 4-ton (ice) plant in good condition. Competition. In community of 2500. Price including lot \$9500; part cash; terms balance. Address Barboursville Supply Co., Barboursville, Ky.

INDUSTRIAL PLANTS FOR SALE

SAW MILL **FOR SALE OR LEASE.**—Circular-saw mill plant, 50,000 ft. daily capacity, exceptionally located for shipping; 75,000,000 feet of timber available. Reasonable price. Address Box 522, Savannah, Ga.

AGENCIES WANTED

MANUFACTURER'S AGENT.—A young man of 42, with 20 years' general business experience, has concluded to accept agency to distribute useful articles—shipments from factory direct to wholesalers or retailers in Memphis and surrounding territory, or, if necessary, will handle some shipments on consignments. Those interested kindly get into correspondence, and will furnish best reference. Isidor Scott, care of Commercial Trust Savings Bank, Memphis, Tenn.

AGENCY WANTED by two hustlers, one a consulting engineer with 19 years' experience, the other a sales manager; desire to represent first-class firm or corporation in Atlanta and Southeast on strictly commission basis; will finance only a high-grade proposition. Address No. 5235, care Manufacturers Record, Balto., Md.

SITUATIONS WANTED

WANTED.—Position as purchasing agent; thoroughly competent; nine years with prominent railway in South; two years with construction corporation on Government work; employed at present; open for position January 1; salary secondary consideration if position permanent; best references. Robinson, 2110 Jones Ave., Nashville, Tenn.

WANTED.—Position as executive or auditor. Coal business preferred. Can invest. Best of references. Address No. 5223, care Manufacturers Record, Balto., Md.

MARRIED MAN (age 41 years) of exceptional executive ability with big business, recently connected with two cantonments and shipbuilding plant, experienced in auditing, accounting and business management, strictly high grade, ample experience. All references will be open for position about Jan. 15 with some large corporation; no objection to going abroad. State salary willing to pay first letter. Address No. 5234, care Manufacturers Record, Balto., Md.

MECHANICAL ENGINEER wants position with manufacturing plant, mill or machine works as **MASTER MECHANIC.** Thoroughly experienced man. Address No. 5235, care Manufacturers Record, Balto., Md.

ARMY CAPTAIN, soon to receive honorable discharge, desires position with manufacturing or business enterprise. Ten years' magazine and newspaper correspondent New York, Washington, London. Age 31. Valuable as Washington representative or as assistant to company official. Address No. 5232, Manufacturers Record, Balto., Md.

YOUNG MAN with executive training, expert accountant, familiar with purchasing, financing, now holding official position, desires connection with concern offering promotion to man of ability and initiative. Highest references. Salary secondary consideration if opportunities are in evidence. Address No. 5228, care Manufacturers Record.

YOUNG MAN, student, wishes position in the afternoons as translator and correspondent of Spanish-English with a commercial firm in Baltimore. Address No. 5227, care Manufacturers Record, Balto., Md.

PURCHASING AGENT or sales department; age 34; manufacturing and construction work experience. Now employed as district sales agent for iron and steel mills. Cessation of Government work reason for change. Formerly purchasing agent for concern buying over quarter of million monthly. Intimate and practical knowledge of materials; initiative, with managerial ability; sober and reliable; not just an ordinary job hunter, but have some responsibility and means as a result of past work. Address No. 5221, care Manufacturers Record, Balto., Md.

MEN WANTED

IF ACTUALLY QUALIFIED for salary between \$2500 and \$5000, communicate with undersigned, who will negotiate strictly confidential preliminaries for such positions: executive, administrative, technical, professional; all lines. Not an employment agency. Undersigned acts in direct confidential capacity, not jeopardizing present connections. Established 1910. Send name and address only for explanatory details. R. W. Bixby, E64-66 Niagara Street, Buffalo, New York.

OLD RELIABLE FIRM, engaged in the exportation of general merchandise, exclusive representative several manufacturers, is now extending its business relations with South, Central America, West Indies and Europe; would like to secure agents in those countries on commission basis. Essgee Co. of China, 621 Broadway, New York, N. Y.

MACHINERY AND SUPPLIES

STEEL BUILDING, 81'x245', with 2-30-ton cranes. Hand traveling cranes: 2-27' 10" span, with 21" I-beam bridges with geared trolleys; 3-31' 3 1/2" span, 5-ton, with hoists and trolleys; 1-26' 3" span, 12" I-beam bridge, roller bearings; 1-17' span, 3-ton, 8" I-beam bridge. Trolleys: 1-new 5-ton geared with roller bearings; 1-5-ton plain trolley with roller bearings for 12" beam; 1-plain for 6" beam. Chain hoists: 1 each, 2, 3 and 5-ton. General line machinery and foundry equipment. The Clifton-Pratt Co., Cincinnati, Ohio.

ROOTS CONNERSVILLE pressure blowers, all sizes, for furnaces, oil-fuel combustion, etc. Fan blowers, for cupolas, forges and forced draft. Exhausters, for gas, dust collection and planing-mill service. Air compressors and receivers, all sizes. The Clifton-Pratt Co., Cincinnati, Ohio.

FOR SALE.—20 H. P. St. Mary's oil engine, nearly new, complete with all appurtenances. Barge Machine Works, 218 N. Jefferson, Chicago, Ill.

FOR SALE.—Horizontal storage tanks, capacities 9000 to 21,000 gallons, our specialty. Prompt shipment; in some cases, immediate. Sharpsville Boiler Works Co., Sharpsville, Pa.

FOR SALE.—Smith Form-a-Truck attachment, new; will ship to your station and draw bill of lading, attached. Price \$350. F. M. Phillips, Tecumseh, Okla.

FOR SALE.—12x12x16 Rand air compressor; one 60 H. P. boiler; one No. 2 Gates rock crusher, at a bargain. T. M. Byrd, Salisbury, N. C.

FOR SALE.—One new Ann Arbor shuck press, size 16x18; never been installed. Also one No. 2 Joliet corn shucker and sheller complete; operated one season only; in first-class condition. Elkin-Henson Grain Co., Meridian, Miss.

FOR SALE.—1 1/2-horse Foss engine, \$50; four 5-inch single-stage centrifugal pump, 20 feet belt, \$85; and connections to 8-inch well and two 3-inch gates and connections to mains; all installed new this summer and never used; 600 feet new unused 3-inch canvas hose, \$75. Duhme, Seminole, Fla.

MACHINERY AND SUPPLIES

BOILERS.—For sale, f. o. b. cars Thebes, Ill. One boiler 16' by 60", with forty-four 4" flues, complete with 60' stack. One boiler 16' by 72", with sixty-four 4" flues, complete with 56' stack. Make your proposition; best cash offer takes. Will sell separately. J. D. Hollingshead Co., 308 S. LaSalle St., Chicago, Ill.

Locomotives, freight cars and railroad equipment, standard gauge. Also brick-plant machinery, motorboats and good pile driver. J. P. Christensen, Williamsburg, Va.

FOR SALE AT A BARGAIN.—One locomotive-style boiler and engine, mounted on boiler with double wood splitter, conveyor shafting, 28-inch saw; complete wood yard outfit; a real pick-up. Edward Niles, Highway Branch P. O., Jacksonville, Fla.

FOR SALE.—15 H. P. International engine, 5 K. W.; Western Generator, belt, rheostat, voltmeter, amp. meter, switchboard, also 5000 feet copper wire at a bargain. P. E. Carroll, Shamrock, Okla.

PFAUDLER enamel-lined tanks, all sizes, 6 1/2c. per gallon. Also wooden vats, beer filters, copper kettles, beer coolers and refrigerating machinery. Charles S. Jacobowitz, Brewery Dismantler, 1382 Niagara St., Buffalo, N. Y.

FOR SALE.—150 H. P. gas engine, direct connected to 100 K. W. 230-volt generator; guaranteed condition; will sell separately. Osborn, 102 Commerce Building, Kansas City, Mo.

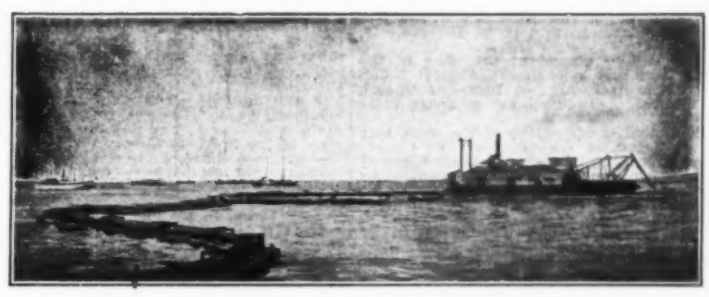
FOR SALE.—K. & E. railroad transit, 12-in. telescope, weight 24 lbs., in perfect adjustment, modern accessories. A bargain for quick sale. Walter Leonard, Bolivia, N. C.

MACHINERY and SUPPLIES WANTED

WANTED.—Small hoisting outfit with 1/2-yard orange peel bucket. What have you to offer. Address Perrin & Thompson, Winter Haven, Fla.

WANTED.—One-man stump puller and machine saw for cordwood. Good condition. Thomas F. Taylor, Palmetto, Fla.

Dredging



Filling, Land Reclamation, Canals and Port Works

River and Harbor Improvements, Deep Waterways and Ship Channels

We are especially equipped to execute all kinds of dredging, reclamation, and port works in Southern waters.

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Largest Plant Longest Experience

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NEW YORK MANILA, P. I. MOBILE, ALA.

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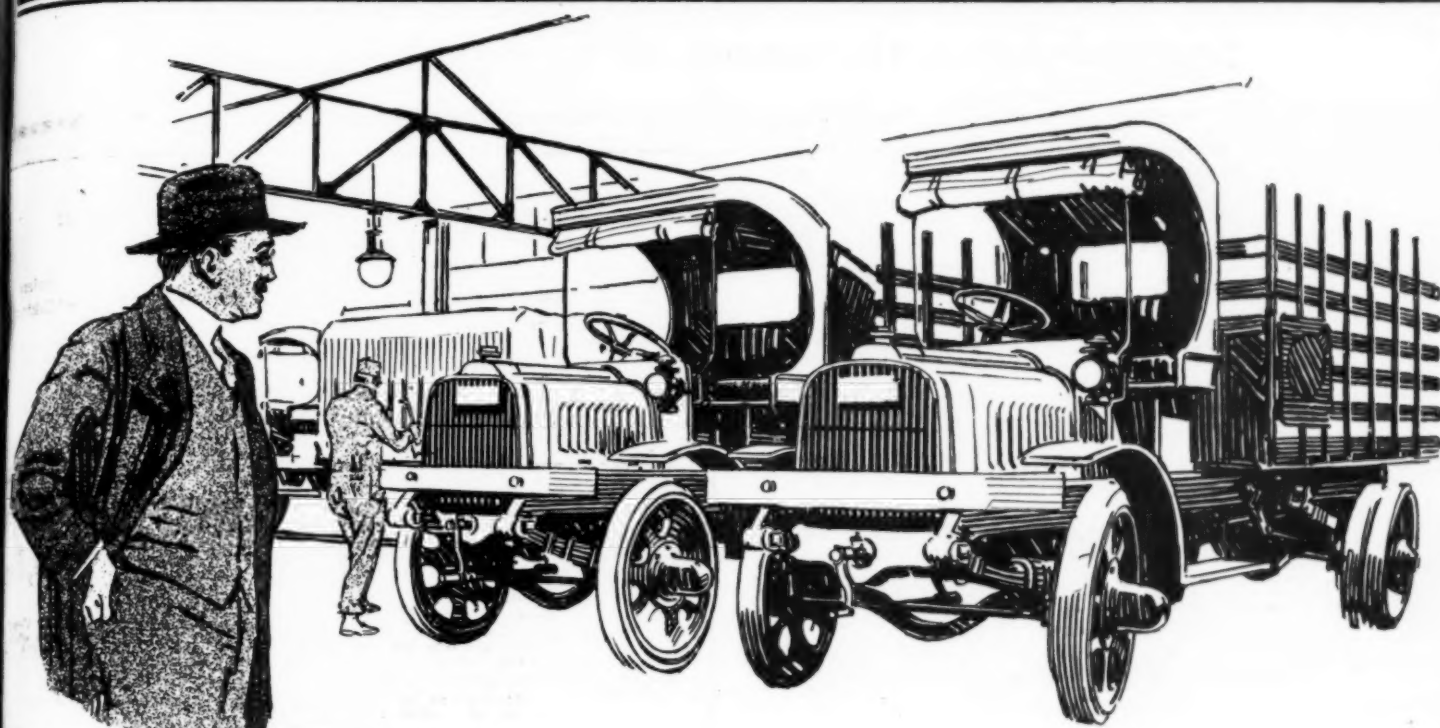
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Owner Confidence

The U. S. Motor Truck has won the confidence of many owners. The fact that many of them are investing in fleets is a good indication that the U. S. is making good. It means as much as if these owners said to you, "Our experience with the U. S. has been most satisfactory. It has proven an excellent investment."

The U. S. Truck is the reflection of the policy of this organization to produce a truck that would pay big dividends for every dollar invested—a truck of long faithful service, and we owe our success to that policy.

We have built the U. S. massive and sturdy. Many parts are oversize for safety. We mounted the motor so that the maximum power is delivered to the wheels no matter how rough the going. The "Floating Power Plant," as we call it, is responsible to a great extent for the low operating costs of the U. S.

The U. S. has made a host of friends because men have found they can trust in it.

Send for folder, "Why the Floating Power Plant?"

The United States Motor Truck Co.
Cincinnati, Ohio

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Special Advertisements of General Interest.

Modern Light MACHINE TOOL PLANT

Fireproof construction, 15,000 sq. ft. floor space, with additional 45,000 sq. ft. ground space available; on sidetrack, located heart cheap fuel district. Full inventory of equipment on request. Can be bought at reasonable price on favorable terms. Close to 25-million-dollar armor-plate and gun-forging plants of Government here. Write

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COMPLETE MODERN PORTLAND CEMENT PLANT

Capacity 2,000 Barrels Daily

(Wet Process)

Can be loaded directly on steamer
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Sizes to suit all needs on all railroads. Supplies of coal, coke, iron and steel within trucking distance.

Labor situation better than in other industrial centers. Hydro-electric power available. Equable climate.

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Desire correspondence with Manufacturers, Exporters, Wholesalers and commercial industries in general, who are interested in establishing commercial relations with the Importers of Cuba.

Write today to

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Commission Representative
HAVANA, CUBA

Department of
Agencies

P. O. Box 2446
Cable: R. A. HAMEL

Receiver's Sale of Windmill Factory and Site, Etc.

To Whom It May Concern:

NOTICE is hereby given that, under orders of the 45th Judicial District Court, Bexar County, Texas, I am to offer for sale, either at public or private sale, in whole or in parts, on TUESDAY, January 7th, 1919, all the assets of the ATLAS WINDMILL COMPANY at Wichita Falls, Texas.

Following is a brief synopsis of said assets:

Factory site, consisting of about 7.95/100 acres of land, with ironclad factory buildings situated thereon, also office building, said site and buildings valued at about.....	\$12,000.00
Windmill merchandise, valued at about.....	10,000.00
Machinery, consisting of Lathes, Drills, Motors, Saws, Planers, Joiner, Milling Machines, etc., valued at about.....	1,500.00
Patterns, valued at about.....	1,500.00
Shafting, Pulleys, etc., valued at about.....	500.00
Beltting, valued at about.....	500.00
Tools, valued at about.....	1,000.00
Furniture and Fixtures, valued at about.....	1,000.00
Demonstration Mill, samples, etc., valued at about.....	500.00

Less deductions a/c sales, mdse., fixtures and freight, approximately.....

Also Patent Rights. The above sale is subject to any previous private sale which may be made, and bids for a private sale of said property, in whole or in part, will be considered by me at any time until the said 7th day of January, 1919. All offers to be referred to Court for confirmation or rejection without further notice to creditors. Inspecting the plant and inventory can be had upon application to Mr. E. G. Cook at Wichita Falls, Texas. For further information write

M. COPPARD, Receiver,
407 Swearingen-McCraw Bldg., San Antonio, Texas

FACTORY---Sale or Lease

at Locust Point, Baltimore. 30,000 sq. ft. floor space.
Rail and water facilities Immediate possession.

BALTIMORE GLASS CO.

34 Gunther Bldg.

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INDUSTRIAL CORPORATIONS FINANCED

Send full details as to
financial requirements

FARSON, SON & CO.

115 Broadway
New York

WATER WORKS FOR SALE

City Council, Guntersville, Alabama, has passed resolution expressing willingness to sell water plant. Prospective buyers invited to come and inspect system. Good proposition.

L. S. LONG, Mayor.

We Make a Specialty of Dismantling

Old plants of every description, such as saw-mills, electric-light plants, etc. Our terms are spot cash. Advise us what you have to offer.

THE PIEDMONT IRON & METAL CO.
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We Buy Dogwood

Write today for full particulars

SHAMBOW SHUTTLE CO.
WOONSOCKET RHODE ISLAND

If You Wish to Keep Posted on the
Progress of the South
Read the
MANUFACTURERS RECORD
Price \$6.50 a Year, or
Six Months for \$3.50

MOTOR and COFFEE MILL

FOR SALE.—Sprague Electric Co. Ltd. Motor, 7½ H. P., 1030 R. P. M., 285 Amps. volts. Used only short time. Also 1 electric driven Coffee Mill, D. C.

H. KOHNSTAMM & CO.
Camden New Jersey

ELECTRIC LIGHTING EQUIPMENT

FOR SALE.—60 KVA Westinghouse 11000 Westinghouse Alternating Dynamo and K. W. Exciter, marble switchboard, fixtures, 6½ miles of triple braid wire, proof copper line wire, lot of service wire transformers. Complete equipment for lighting small town or large industrial plant.

MILLER LUMBER COMPANY
Millerton, McCurtain Co., Okla.

A strong and well-established company desires to form affiliations with a few additional manufacturers of machinery to represent them for the further development of their sales, export and domestic.

The company has a strong organization of salesmen who are practical and technical mechanical men with years of experience in dealing with export and domestic trade with railroads, lumbermen, contractors, industrial concerns, etc. It already has offices in New York, Montreal, Chicago, New Orleans, Pittsburgh, Washington, D. C., and Richmond.

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A-23

Care Manufacturers Record
BALTIMORE, MD.

HIGHLAND PINES INN

Open From December 1st to May 1st

Superb Climate. Not too cold or yet too hot. The resort with the just-right weather.

Accessibility. Only a day or night from New York or Florida on the splendidly equipped trains of the Seaboard Air Line Railway.

Extensive and delightful views in all directions. Adjacent to 18-hole course of Southern Pines Country Club. Good automobile roads. Excellent hunting. Consumptives not received.

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Weymouth Heights, Southern Pines, N. C.

"JUST FAR ENOUGH SOUTH"

is near several army camps, two of which are:

CAMP BRAGG—A brigade artillery camp with remount station near Fayetteville. This camp will accommodate 54,000.

CAMP GREEN—A guard camp, Base Hospital Depot, near Charlotte, N. C. This camp will accommodate 40,000.

A. I. CRAMER, M. H. TURNER, Proprietors

THE HAMMOND HOTELS

THE HOTEL ESSEX

BOSTON, MASS.

Opposite South Terminal Station

EUROPEAN PLAN.

RATES MODERATE.

ABSOLUTELY FIREPROOF.

Free Transfer Baggage from and to Station.
Terminal of Trains from South and West.

DAVID REED, Manager

CAN YOU MAKE CASTINGS?

*If so, Let Our Readers Know It
through an advertisement in the*

Southern Shops Seeking Contract Work

Department of the

MANUFACTURERS RECORD

The Columbus Iron Works Co., Columbus, Ga., wrote us a short time ago, as follows:

"We are pleased to advise that since running our ad. in 'Southern Shops Seeking Contract Work' department, we have all the work we can take care of for the next six months. It certainly pays to advertise."

If your plant is not running at full capacity an advertisement in this department of the MANUFACTURERS RECORD outlining your special facilities will put you in line of securing some of the profitable work which foundries and machine shops in other parts of the country are compelled to sublet because of the greatly overcrowded condition now prevailing.

In these times it is a vital economy of war to keep your plant operating on a 100% capacity schedule, and an advertisement in the MANUFACTURERS RECORD may bridge the gap between your present production and your possible production. Try it.

Machinery, Equipment and Supplies WANTED

We Will Buy

All classes of Contractors

Used Machinery Equipment Rails

Etc.

Terms draft attached
B/L all shipments

The National Equipment Corp'n.
1322 Widener Bldg., Philadelphia, Pa.

WANTED

SECOND-HAND

Iron Roofing, Iron Siding, Iron Covering of all kinds. Will pay good prices on either large or small lots. Damaged material of the above description from fire jobs, abandoned or dismantled plants will bring you good money. Write us and give description.

M. FEITEL HOUSE WRECKING CO.

3700 to 3800 Tulane Ave. New Orleans, La.

WANTED

150 to 210 H. P. Steel-cased Casey-Hedges Boiler, in good order.

WILLIAM S. WHITING
ELIZABETHTON TENNESSEE

WANTED

1000 tons of 60-lb. Relaying Rails, for Southern delivery. Prompt shipment essential.

The Isaac Joseph Iron Co.
525 Reading Road Cincinnati O

If you wish to keep posted
on the progress of the
South read the
MANUFACTURERS RECORD

Price \$6.50 a year, or
six months for \$3.50

Wanted to Buy

Two 5 ton Bell, or
similar type
DISCARDED
LOCOMOTIVES

C. W. PARKER
LEAVENWORTH, KANSAS

Wanted

1-25 H. P. locomotive-type Boiler to Hunt's inspection for a pressure of 110. Give complete information, also location and best cash price. Address

L. T. B. Care Manufacturers Record, Baltimore, Md.

Bargains in Machinery and Supplies.

PIPE MACHINES

2-2½ to 8 or 10-inch and 2-6 to 16-inch motor-driven, 3-phase, 60-cycle.

Give full details and lowest prices

Address P. M., care Manufacturers Record
Baltimore, Md.

Lot Sheet Piling

Bargain for Quick Sale

40 pcs. 9" United States, 14 ft. long.

17 pcs. 9" United States, 12 ft. long.

4 pcs. Corners, 12 ft. long.

46 pcs. 12¾" Lackawanna, 20 ft. long.

24 pcs. 12¾" Lackawanna, 16 ft. long.

10 pcs. 12¾" Lackawanna, 8 ft. long.

ARTHUR DANIELS CO.,
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21 Park Row New York City

DRYER AND BUCKETS

FOR SALE

1-No. 600 Cumber Salamander Dryer-Cylinder, 75 inches by 35 feet, with Buffalo fan, furnace front and grate. In use only three months.

80-Steel Buckets, 30 inches x 12 inches x 17½, with head and tall sprockets.

GRIESEMER GRAPHITE COMPANY

ASHLAND, ALA.

DRYERS

3-6' x 20' Rotary Dryers, complete with Conveyors and all accessories.

Advise your requirement
for Power Apparatus.
We can be of help to you.

Paul Stewart & Co.

Electrical and Steam Machinery

First National Bank Bldg., Cincinnati, O.

For Sale

Following used machinery, replaced within the last 30 days by machines better adapted to the actual work in hand. All ready to run:

Kennedy Van Saun Clay Disintegrator. Outside revolving cylinder 6'x16', with interior revolving paddles and lifting vanes. \$2000.

Sluggers Rolls. 30-inch diameter by 36-inch face. Raised knobs on face 3"x4". \$2000.

Cable Excavator Company's Drag Bucket Cable Excavator. Two-yard capacity. Flory Winding Engines and all cables. Two extra buckets. \$3500.

This equipment may be inspected at any time at plant of Crimora Manganese Corporation, Crimora, Augusta County, Virginia.

Address

Crimora Manganese Corporation
CRIMORA, AUGUSTA COUNTY, VIRGINIA

Second-Hand Equipment FOR SALE

1-10 H. P. D. C. D. D. American Hoist & Derrick Hoisting Engine.

3-6x10 Vulcan & Porter 36" Gauge Locomotives.

2-No. 1 McKiernan Terry Sheet Pile Hammers.

1-No. 5 Pulsometer Steam Pump, 3" suction.

3000-ft. 6" Black Pipe, used only for air.

1500-ft. 4" Black Pipe, used only for air.

20-1½-yard 36" gauge Lakewood Dump Cars.

2-New 300-gallon Steel Water Carts.

1-½-yard Foote Concrete Mixer.

THE JEWEL SUPPLY & EQUIPMENT CO., Inc.

34 S. Calvert St. Baltimore, Md.

MOTORS

1 Chandeyson, new, 50 H. P., A. C. motor, 230-volts, 3-phase, 60-cycle, speed 850 R. P. M. With starting compensator, without base or pulley.

1 Wagner type B. P., 35 H. P., A. C. motor, 220-volt, 3-phase, 60-cycle, speed 850 R. P. M. With starter, without base or pulley. Second-hand; in first-class condition.

1 General Electric Co. type R. C., 15 H. P., direct current motor, 230-volt, shunt wound, speed, 1150 R. P. M. With base pulley and starter and perforated covers. Good as new.

For further information and prices, address

Hall & Brown Woodworking
Machine Co.

1913 N. BROADWAY

St. Louis, Mo.

For Sale Iron Working Machinery

One Steptoe 16-in. Shaper.

One Hamilton 16x36 Corliss Engine.

One Allis-Chalmers Generator, 3-phase, 60-cycle, 440 volts, 115 K. W., 600 speed.

One Ingersoll-Rand Steam Air Compressor, Class NF, 12x12 and 12½x12.

One Elliott No. 7 Feed Water Heater.

One 205-Horse Heine 150 lbs. Water Tube Boiler.

One Q. M. S. Circular Cold Saw.

One Lennox Mfg. Co.'s No. 74 Rotary Shear.

One Queen City Tye D Combination Punch and Shear, 30-in throat, motor or belt driven.

One Dries & Crump Sheet Metal Brake.

One Queen City Double Combination Punch and Shear, belt driven, 15-in. x 12-in. throat.

One Lennox Circular Disk Shear.

One Bertsch 122-in. Shear.

Two Yale & Towne 5-ton Hoists to 15-ft. Eye-Beam Travelling Crane.

One Davis-Burnonville Acetylene Apparatus and fittings.

MACHINERY & SUPPLY CO.

Greensboro, N. C.

One Right-Hand GANG EDGER

Equipped with front and rear tables, front and rear rolls and three 16" solid-tooth saws, two of these being adjustable, the other stationary. This machine is absolutely new and has never been used. Address

A-29, Care Manufacturers Record, Baltimore, Md.

JAW CRUSHERS

1-24"x36" Type B "Farrell," weight 65,000 lbs., first-class condition.

1-30"x13" Type B "Farrell."

Also, a number of smaller crushers.

L. F. SEYFERT'S SONS, Inc.

437 N. 3rd Street Philadelphia

Ice Machines

2-Ice Machines, steam driven, 75 tons refrigeration each, 45 tons ice.

Power Equipment Company, Engrs.

1218 Chestnut Street

Philadelphia, Pa.

FOR SALE

One Auto Knitting Machine

And all accessories. Three pounds yarn included. Has not been used to any extent. Was bought February, 1918. Will take for outfit. A guide goes with it. Write

A. L. SHANNON

BERLIN, ALA.

One Electric

BUTT WELDING MACHINE

40 K. W., 220 volts, 60-cycle, single-phase with transformer. Has capacity of ½ square inches of welding. Is in first-class condition. Address

A-30, Care Manufacturers Record, Baltimore, Md.

CORLISS ENGINE FOR SALE

1 used 600 H. P., 20x32x42" Allis Cross-Compound Corliss Non-Condensing Engine complete with 22-groove lagged flywheel. Good condition. Immediate shipment.

CEMENT PLANT MACHINERY

7-30" Griffin Mills.

2-48"x26" Slag Dryers.

1-36"x24" Lime Dryer.

1-48"x40" Cooler.

6-Bucket Elevators.

Steel Bins, Shafting, Pulleys and Hangers.

THE STRUTHERS FURNACE CO.

CLEVELAND, OHIO

A Regular Bargain

1-50 K. W., 125/250 volts, D. C. Generator direct connected to Fleming simplex automatic engine, complete with switchboard, first-class second-hand condition, and shipped immediately.

The generating unit consists of two K. W., 125-volt General Electric Generator mounted on engine shaft. Can be used 125 or 250 volts.

McClary-Jamison Machinery Co.

3 South 20th Street

Birmingham, Ala.

COOPER CORLISS ENGINE TO BE SOLD AT ONCE

USED VERY LITTLE

GOOD AS NEW

Right Hand Horizontal Tandem Compound Condensing 500 h. p. 16" x 32" x 30" Cooper Corliss Engine.

Act quick and secure good engine cheap. Also Ball Tube Mill, pulleys, etc. List of these on application.

EMPIRE CEMENT & LIMESTONE COMPANY

314-315 HEALEY BUILDING

ATLANTA, GA.

PIPE

ALL SIZES

SECOND HAND

5,000 ft. 8 in. Pipe
5,000 ft. 6 in. Pipe
20,000 ft. 2½ in. Pipe
25,000 ft. 2 in. Pipe
20,000 ft. 1½ in. Pipe
25,000 ft. 1¼ in. Pipe

IMMEDIATE DELIVERY

JAMES F. GRIFFITH

416-24 Moyer St. Philadelphia, Pa.

MENTION MANUFACTURERS RECORD WHEN YOU WRITE

Boston Iron and Metal Co.

Buyers of Scrap Iron and Metals

Complete Plants Purchased

BALTIMORE

MARYLAND

FOR SALE

1-No. 4 Fay & Egan 42" Band Scroll Saw; will carry ¾ to 2¼" blades.
1-No. 180 Fay & Egan Band Rip Saw with blade.
1-Rogers 38" Automatic Knife Grinder with one 8" cup wheel.
1-48" Carver Knife Grinder.
1-No. 96 H. B. Smith Double Spindle Boring Machine, 4 to 16" on centers.
1-Grunter No. 204 Horizontal Hollow Chisel Mortiser.
1-Yerkes & Finn Single End Double Head Tenoning Machine.
1-Royal Invinible 42" Triple Drum Sander.
1-Hall & Brown No. 22 4" Sticker, four slatted heads.
1-Fay & Egan Combination Saw and Dado Machine with 2 saws, and two Hutter Dado Heads, etc.
1-Newman 9" Moulder with 4 slatted heads.
1-Fay & Egan 12" Moulder, No. 184, complete equipment.
1-Grunter Hollow Chisel Mortiser, No. 231, with one boring spindle.
1-Whitney 30" Single Surfacers with section and rolls, etc.
1-Fay & Egan No. 2 Single Head Tenoner.
1-American Variety Saw with counter-shaft, with Universal Tilling Table.
1-Fay & Egan No. 277 Double Spindle Shaper and Countershaft, 46x66" table.
1-Double Blower, No. 50, and pipe.
1-Single Blower, No. 50, and pipe.
All in excellent condition; attractive prices; f. o. b. cars High Point, N. C.
Several engines for sale; some boilers.
One 205 Heine High Pressure Water Tube, 16x36 Hamilton-Corless Engine, L. H. belt wheel.
A lot of 1" pipe. Lot of 40 and 70-lb. rail.

MACHINERY & SUPPLY CO.
GREENSBORO, N. C.

FUEL OIL TANKS

(NEW)

For Sale

4 Tanks, 10' 9"x5' 8"x6' 9", capacity 411 cu. ft.
4 Tanks, 11' 9"x6' 9"x8' 0", capacity 634 cu. ft.
2 Tanks, 6' 6"x3' 2"x6' 6", capacity 134 cu. ft.
2 Tanks, 6' 6"x4' 10"x8' 6", capacity 266 cu. ft.
Also two odd-shaped Tanks, 340 cu. ft. each, and two of 530 cu. ft. each.

R. LAWRENCE SMITH, Inc.

R. D. SUTTON

17 BATTERY PLACE
NEW YORK

Second-Hand Equipment

FOR SALE

13x14 Aldrich Triplex Pump.
14x16 Gould Triplex Pump.
15x16 National Triplex Pump.
All single acting, 175 lbs. pressure.
1500 ft. 8, 10, 12, 14" Pipe.
18"x11"x14" Sullivan Angle Compound Belted Air Compressor.
20"x12½"x16" Sullivan W. J. Belted Air Compressor.
Steam-Driven Air Compressors, 200 to 2500 ft. all makes.
72"x18" Boilers, 125 lbs. pressure.
Corless, Gas and Oil Engines.
25 Carloads Pipe, all sizes.

Largest Stock Second-Hand Machinery in Southwest

Landreth Machinery Company
JOPLIN, MO.

FOR SALE

1-150 H. P. Ideal Tandem Comp. Engine \$850
1-150 H. P. Russell 300
1-125 H. P. Hamilton Corless 300
1-100 H. P. Portable Return Tubular Boiler 1200
1-100 K. W. Crocker-Wheeler 125-volt, direct connected Generator 1900
1-35 H. P. General Electric Motor, slip-ring, 3-60-1200-2200-volt, complete 585
1-15 H. P. Crocker-Wheeler, 3-60-22-1140 265
1-5 H. P. Crocker-Wheeler, 3-60-220-1800, new 90
1-7½ H. P. Wagner, 3-60-220-1800 150

ROSE ELECTRIC CO.

6401 State St. Chicago, Ill.

10,000 Gallon Cyprus Tank
with 50 ft. steel structure
CHEAP.

NATHAN KLEIN & CO.
203 Centre Street NEW YORK

Fairbanks-Morse PUMP

Steam end 9 and 14x7x10, 6 inch suction and 5-inch discharge. Weight, 3850. Brass lined; good as new.

JOHN EGER
Geary, Oklahoma

IRON AND WIRE AND MALLEABLE STEEL PIPE MANILA ROPE AND CAST FITTINGS

Large stock of good sound SECOND HAND pipe in long straight lengths. No rust pits or other places; couplings and threads perfect

Largest stock of NEW pipe in the Middle West

OHIO PIPE CO., Works and Yards, FINDLAY, OHIO

FOR SALE

PIPE

Second-Hand
All Sizes, 1" to 24"

Furnished with new threads and couplings, suitable for every practical purpose.

Also large assortment of Contracting Equipment, Hoisting Engines, Rollers, Concrete Mixers, etc.; all thoroughly overhauled.

Marine Metal & Supply Co.
17 South St. NEW YORK

WROUGHT IRON PIPE

Thoroughly overhauled, with new threads and couplings. Guaranteed to give entire satisfaction. Sent to sketch. It will pay to correspond with us.

Albert & Davidson, Inc.
Oakland and Kent Sts.
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Second-Hand Pipe

Cut and threaded to any desired length. Pipe for steam, water, irrigation or other purpose. Write for prices. We can positively save you money. Your orders solicited. We are always in the market for scrap iron, metals, etc.

B CASSELL & COMPANY
Chattanooga Tenn.

PIPE

For Sale

tons cast iron, 3, 4 and 6-inch, full length; first-class condition. Phone or write

Security Iron and Metal Co.
Clark and Jefferson KANSAS CITY, MO

PIPE ALL SIZES

Bargain Prices. Second-Hand and New; IMMEDIATE DELIVERIES
8,000' of 12" pipe.
10,000' of 8" pipe.
10,000' of 6" pipe.
10,000' of 4" pipe.
15,000' of 3" pipe.
50,000' of 2" pipe.
60,000' of 1½" pipe.
100,000' of 1¼" pipe.
100,000' of 1" pipe.
Also, a large stock of 18", 18" and 20" pipe.

Pipe & Contractors Supply Co.
3 Dover Street NEW YORK

SOME BARGAINS

1-Dayton Centrifugal Pump, 5" suction and 4" discharge, complete with accessories.
1-Worthington Centrifugal Pump, 6" intake and 8" outlet, complete with accessories.
Instantaneous Gas Hot-water Heater; NEW.
3-Large and Small Air Compressors.
Two tons 12-lb. Relay Rails.
Fourteen lengths 1 Beams.
24"x12" Hollow-spindle Lathe.
Four Bronze 12" Electric Gongs; NEW.
1-36" Boston Blower, 21x18 outlet, with or without Godfrey Keeler upright steam engine; NEW.
12-Large Exhaust Fans.
1000-Electric Motors, all sizes.

NATHAN KLEIN CO.
218 Centre Street New York City

Hydraulic Presses

Crusher Generating Set
FOR SALE

Five Boomer & Boschert 25-ton Vertical Hydraulic Presses. Ram, 8 inches; top of ram, 16 inches; top of platen, 26x27 inches; table, 28x64 inches. Diameter of uprights, 1½ inches, each with controller valve. Having never been used or set up, these presses are in the same condition as they were when they left the hands of their makers.

One No. 1 Williams Crusher, made by the Williams Patent Crusher & Pulverizer Co., St. Louis, Mo. Hopper opening, 18x6 inches, equipped with feed rolls. Extreme dimensions, 6'x6'x3' 6". Net weight, 4500 pounds. This machine is practically new.

One Crocker-Wheeler Generator Set, 162 D. type, C. C. D., 150 kilowatt, 225 R. P. M., 125-volt, 1200 amperes. Directly connected with Fleming-Harrisburg engine. In splendid condition.

Those interested in purchasing the foregoing items are requested to submit best offer for the items desired.

Address A-27

Care of Manufacturers Record
BALTIMORE, MD.

PUMPS

1-2000 gallon per minute Layne & Bowler vertical centrifugal pump adapted for mine work, 4 stages set at 200 foot depth, direct connected to 150 H. P. G. E. vertical motor, 2300-volts, 3-phase, 60-cycles, 1200 R.P.M., form K. Pump used approximately 30 days; motor new, never been mounted.
1-14x20x9x16 Epping Carpenter Compound Steam Pump. Capacity 600 gallons per minute, outside end packed, pot form valves in water end; in service one year, working against 550-foot head.

For full particulars and prices
B. C. CORNER
1012 Pierce Bldg. St. Louis, Mo.

PUMPS

FOR SALE

Two STILWELL-BIERCE, SMITH-VAILE Compound Duplex Pumps; steam cylinders, 14-in. and 20-in. diameter; water end 10-in. diameter; 16-in. stroke; brass lined on water end and outside center packed; steel piston rods; suction 12-in., discharge 10-in. Built for 250 lbs. working pressure. Weight 17,000 pounds. Can furnish suction and discharge connections, including foot valve, check and gate valves, pipe and fittings. Address

The J. B. McCrory Company
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MOTORS FOR SALE

3-Phase, 60-Cycle, 440 or 220-Volts, 850 R.P.M.
2-30 H. P.
3-15 H. P.
2-20 H. P.
3-10 H. P.
2-5 H. P., 1800 speed.
1-3 H. P., 1800 speed.
Several 550-volt Motors, 3 H. P. to 100 H. P.
1-Generator, 450-volt, 3-phase, 60-cycle, 600 speed, and Exciter; also the belted Corless Engine that drove same, 16x36.
1-205 H. P. Heine Boiler.

MACHINERY & SUPPLY COMPANY
Greensboro North Carolina

One New 350 H. P. Tandem Compound Corliss Engine

Price \$2,750.00 Immediate Delivery

Ross Power Equipment Co.
Indianapolis, Ind.

MOTORS AND GENERATORS

IMMEDIATE DELIVERY.
H. P. Volts. Cycles. R.P.M. Make.
10 220 60 1750 R. & M., new.
15 220 60 1150 R. & M., new.
20 440 25 1430 Whse., used.
20 440 25 710 Whse., used.
250 K. W. 220 D. C. 340 C-W., new.
275 K. W. 220 D. C. 440 C-W., new.
Get our reduced prices. Write or wire.
H. W. WISWELL CO., 122 N. 7th St., ST. LOUIS, MO.

BLOWER FOR SALE

FAN AND COILS—1 full-house, left-hand top horizontal, discharge New York Blower, 10 ft. high, complete with self-contained engine; also Heating Coils, containing approximately 5000 lineal feet of 1" pipe, all in good condition and subject to immediate shipment. Price \$1000.

OHIO MALLEABLE IRON CO.
COLUMBUS, OHIO

HENRY POTTS & CO.

650 Real Estate Trust Bldg., Philadelphia

Will buy your non-producing equipment or plant. Now is the time to act. Correspondence solicited.

MOTOR and GAS ENGINE FOR SALE

One 35 H. P. General Electric Motor, alternating current, in good condition.
One Hagan Gas Engine, 15 H. P., in good condition.

Oconee Brick & Tile Co.
MILLEDGEVILLE, GEORGIA

ICE PLANT

FOR SALE, January 6, 1919. The entire equipment of the Stuart Ice & Electric Co., consisting of boiler, engine, compressor, tanks, etc. For particulars address

CARROLL DUNSCOMBE
Stuart, Fla.

FOR SALE

Manufacturing Plant

As a Whole or Machinery and Equipment Separately from Land and Buildings

Close to raw material on railroad. Six large disconnected buildings, three brick, three iron-clad. Large Foundry, Machine Shop and Boiler-room, Woodworking Plant, Paint Shop, Foundry and Blacksmith, and Warehouse. Plant practically new, fully equipped, closed down about three months. If interested, detailed information furnished. Terms. Address

F. S. B.
care of Manufacturers Record
Baltimore, Md.

FOR SALE—BARGAIN

Alternating Current Breast Mining Machine

Immediate Shipment—F. O. B. Illinois

1—Morgan-Gardner, Class A, Breast type Mining Machine, 220 or 440 volts, 3-phase, 60-cycle, 42" track gauge (gauge can be changed), 6-ft. cutter bar, 36" cutter head; self-propelling steel trucks; suitable for low vein work. One brand-new extra cutter chain for same. Machine used less than one year. Condition guaranteed.

Price \$1800 f. o. b. Illinois.

If interested, use wires quick—our expense.

Address: WOOD & LANE COMPANY, St. Louis, Mo.

FOR SALE

USED EQUIPMENT

- | | |
|---|---|
| 1—150 H. P. Horizontal Tubular Boiler, with fixtures complete. | 1—30 H. P. Double-Drum Hoisting Engine for use with Derrick. |
| 1—125 H. P. Engine, Houston, Stanwood & Gamble make. | 1—22 H. P. "American" Hoisting or Slew-ing Engine for handling above Derrick. |
| 1—Pittsburg Feed-Water Heater for 150 H. P. boiler. | 1—No. 5 Austin Crusher. |
| 1—Steel Derrick, 10-ton capacity, 115' mast, 112' boom, bull wheel. | |

South Side Foundry & Machine Works

Charleston, W. Va.

WILSON MACHINERY CO.

419 PINE ST. ST. LOUIS

A. C. UNITS 3 PHASE 60 CYCLE

C. W. Make	Volts	Rev.	Engine
2-100 Westing.	440	257	13x22x13 Westing. Ver.
2-105 G. E.	2300	257	16x14 Ideal
125 G. E.	2300	3600	Curtis Turbine
150 Westing.	Any	257	16x27x16 W. V. C. C.
150 Westing.	220	200	14x22x20 Russell
175 Westing.	440	225	18x20 Murray Int.
200 West. E.	220	200	20x18 Atlas
250 G. E.	240	200	19x20 Skinner
300 G. E.	440	—	Met. & S. C. C. 1-Va.
375 G. E.	2300	100	16x32x36 Tand. C.
400 Westing.	2200	150	18x32x34 Corliss
400 Dodge	220	150	25x28 Ridgway
600 Westing.	Any	100	26x40x48 L. & B. C.
1500 Westing.	2300	1200	Westing. St. Turbine

All above generators can be reconnected for 440-220 Volts

D. C. UNITS—250 Volts

K. W. Make	Volts	Rev.	Engine
2-500 G. E.	250	135	28x36 Corliss Eng.
450 C. W.	250	135	28x36 Nordberg Cor.
300 G. E.	250	145	R-Wood C. C.
250 Nat.	250	175	15x20x20 Harrisburg
225 Goug.	250	200	18x21 Buckeye
200 G. E.	250	150	20x24 A. T. & S.
150 W. E.	250	160	18x36 Corliss
3-100 Goug.	250	265	18x15 Skinner
1-75 Westing.	250	270	14x14 Payne

OIL ENGINES

2—50 H. P. M. & W.
2—150 M. & W. 150—225 H. P. Diesel.
1—150 K. W. 2300 Volt A. C. dir. conn. to 225 H. P. Diesel.
3—150 K. W. 250 Volt D. C. dir. conn. to 225 H. P. Diesel.
310 K. W. 2500 Volt A. C. dir. conn. to 450 H. P. Diesel.

ENGINES

30x60 L. & B.; 28x48 Twin City Corliss; 22x42 Vilter Corliss; 30x42 Monarch; 18x36, 16x36 St. Louis Corliss, practically new; 14x36, 12x36 Murray Corliss, excellent condition.

BOILERS

H. P.	Press. Lbs.	H. P.	Press. Lbs.
60x10	130	3-250 R. & W.	175
2-28x18	125	1-207 Wicks V.	175
2-150 Atlas W.T.	125	1-400 B. & W.	150
187 Heine W.T.	150	1-518 Stirling	150

This is only a partial list. Let us know your exact requirements; we probably have it.

ALTERNATING CURRENT GENERATORS AND ENGINES

2—150 K. W. General Electric, revolving field, belted, including engines. A complete plant.

1—200 K. W. General Electric, direct connected to compound Corliss engine.

Innumerable others in stock.

POWER EQUIPMENT CO., Engineers

1218 CHESTNUT STREET
PHILADELPHIA, PA.

FOR SALE

150-Kw., D. C.
GENERATOR—ET-NEW

Direct connected to McEwen Tandem Compound Engine, automatic governor, 250 H. P. Westinghouse 4 slip-ring Generator, 6-pole, compound wound, 110-250 volt, 600 amp., 200 R. P. M.

A. L. HARRIS, Hobart Bldg., San Francisco, Cal.

In Asheville Stock

New and second-hand single and three-phase Motors, sizes 1 H. P. to 7½ H. P., 110, 220 and 440 volts.

We want to put these motors out on essential work.

Get our offer on the electrical equipment you wish to dispose of.

Piedmont
Electrical Building
ASHEVILLE, N. C.

SECOND HAND MOTOR AND TRANSFORMERS

1—50 H. P. G. E. Motor, 220-volts, 3-phase, 60-cycles, 1800 R.P.M., with starter and fuses, squirrel cage rotor, less base and pulley.
2—40 K. V. A. G. E. Transformers, type H, form K, 60-cycles, voltage 1100-2200/122-244.

All in good condition.

For full particulars and prices

B. C. CORNER
1012 PIERCE BLDG. ST. LOUIS, MO.

Dynamos and Motors

One 50 H. P., 3-phase Westinghouse Motor; also one 10 and one 30 H. P.

One 50 K. W., 125-volt G. E. Generator, direct connected to an Armstrong & Sims center-crank steam engine.

One 35 K. W. Diehl, 125-volt Generator, direct connected to Ball-Wood center-crank steam engine.

One 15 K. W., 125-volt Eddie Generator, to Ideal horizontal center-crank steam engine.

S. J. STEWART (ELECTRIC)
312 Carondelet St. NEW ORLEANS, LA.
Long Distance Phone M2301-23 2

We Operate the Largest Electric Repair Shop South.

DIRECT CURRENT UNITS

2—500 K. W. General Electric Generators, direct connected to cross-compound Corliss engines, 220-250 volts. Can be used 3-wire system, 115 or 250 volts.

4—300 K. W., same as above.

Innumerable others in stock.

POWER EQUIPMENT CO., Engineers
1218 CHESTNUT STREET
PHILADELPHIA, PA.

FOR SALE—Electric Motors

We make a specialty of, and have the largest stock of SECOND HAND electric MOTORS and GENERATORS in America, and buy and sell, rent, exchange and repair electrical machinery of all kinds.
16th and Lincoln Streets, Chicago

D. C. GENERATORS FOR SALE

25 K. W., 900 R. P. M., 125-V., Belted Peerless.
55 K. W., 850 R. P. M., 125-V., Belted Westing.
60 K. W., 275 R. P. M., 125-V., engine-type G. E.
60 K. W., 275 R. P. M., 250-V., engine-type G. E.
All in excellent condition, fully guaranteed. Also large stock new and used Motors.
V. M. Nussbaum & Co. Fort Wayne, Ind.

NEW AND USED EQUIPMENT

Machine Tools, Boilers, Engines, Gal. Wire, Sheets, Nails, Steel Bars, Wire Rope.

C. O. KEENE

GARDEN STREET RICHMOND HILL, L. I.

FOR SALE

One new lime-burning outfit, complete; kiln, cooler, motors, etc.; capacity 10 tons daily. One second-hand Cell Drier, 39 50" cells; machine complete. One Parks-Woolson Doubler and One Parks-Woolson Open Lapper, complete, with clocks.

JOSEPH BANCROFT & SONS CO.
Wilmington Delaware

Prompt deliveries on new Direct Current CHANDEYSSON Dynamos and Motors from 5 to 50 Kilowatts.

PAN ELECTRIC MFG. CO.

735 South 4th St. St. Louis, Mo.

ELECTRIC POWER PLANT FOR SALE

Now on skids at Redwine, Kentucky; can ship quick. Recently overhauled and in perfect working order. Price \$6,750 f. o. b. cars Redwine, Ky., slight draft and R/I, attached. Can be inspected any time.

1 General Electric Curtis Turbo-unit consisting of:

Generator: 1 750 K. W. General Electric Vertical, 3-phase, 60-cycle, 2300 or 440 volts 1800 R. P. M.

Turbine: 750 K. W. Condensing (550) K. W. Non-condensing Curtis Vertical, 1800 R. P. M.

150 lbs. steam pressure at throttle, 28" vacuum. Above complete with all piping equipment, condenser equipment.

LENOX SAW MILL COMPANY, LENOX, NY.

MOTORS

Immediate Delivery from Atlanta

1 10 H. P., 900 R. P. M., 550 volts.
1 15 H. P., 1200 R. P. M., 220 volts.
1 20 H. P., 1800 R. P. M., 220 volts.
1 25 H. P., 1200 R. P. M., 220 volts.
1 50 H. P., 1200 R. P. M., 220 volts.

All Motors three-phase, sixty-cycle, offered subject to prior sale.

SEEGER-WALRAVEN CO.

Machinery and Mill Supplies

36-38 W. Alabama St. Atlanta, Ga.

Immediate Shipment From Stock

100 H. P. 220-volt 865 R. P. M. Type AN Allis-Chalmers.
75 H. P. 220-volt 865 R. P. M. Type AN Allis-Chalmers.
50 H. P. 220-volt 860 R. P. M. Type HF Westinghouse (slip ring).
50 H. P. 440-volt 850 R. P. M. Type AN Allis-Chalmers.
40 H. P. 440-volt 1200 R. P. M. Type H Fairbanks-Morse.
40 H. P. 220-volt 1200 R. P. M. Type B Fairbanks-Morse.
20 H. P. 220-volt 1150 R. P. M. Type AN Allis-Chalmers (slip ring).
30 H. P. 220-volt 850 R. P. M. Type K Robbins & Myers.
25 H. P. 220-volt 850 R. P. M. Type K Robbins & Myers.

All Motors 3-phase, 60-cycle, complete.

GEO. F. MOTTER'S SONS ELECTRICAL AND STEAM ENGINEERS

YORK, PENNA.

GENERATORS

Alternating Current

1—50 K. W. Fort Wayne Revolving Field Alternator, 3-phase, 60-cycle, 2200 volts, 300 R. P. M., direct connected to Harrisburg Automatic Engine, belted exciter and switchboard. Splendid condition.

1—62½ K. W. Crocker-Wheeler Revolving Field Alternator, 3-phase, 60-cycle, 200 volts, 300 R. P. M., direct connected to Skinner Automatic Engine, belted exciter and switchboard. Fine condition.

1—100 K. W. General Electric Revolving Field Belted Alternator, 3-phase, 60-cycle, 2300 volts, 600 R. P. M., belted exciter and switchboard. Practically new.

1—100 K. W. Allis-Chalmers Revolving Field Belted Alternator, 3-phase, 60-cycle, 20 volts, 900 R. P. M., belted exciter and switchboard. Good condition.

K. L. JONES MACHINERY CO.
1310-1311 Healey Building
ATLANTA, GA.

Do you receive our Stock Sheet Monthly? We have a complete stock of Motors—Both A. C. & D. C.—Ranging from 1 to 200 H. P.

Wire us—Write us—Phone us
We are at your Service.

DUQUESNE
Electric & Mfg. Co.

Write, wire or 'phone our nearest office:
PITTSBURGH, PA.

or 230 S. LaSalle Street, CHICAGO, ILL.

MOTOR GENERATOR UNITS FROM STOCK

1—40 K. W. 2—150 K. W.
1—100 K. W. 1—200 K. W.
125/250—Volts D. C. End. 220/440—
2300 Volt A. C. End, with complete
Switchboard Equipment.

HOWARD B. PAYNE
1003-4 House Bldg. PITTSBURGH, PA.

FOR SALE

400 K. W. RIDGWAY MOTOR GENERATOR SET (Practically New)

IMMEDIATE SHIPMENT

MOTOR: 400 K. V. A., Self-starting Synchronous type. Characteristics: 2300 volts, 60 cycles, 3-phase, 720 R. P. M.; Temp. Rise 35 deg. C.; Excitation 250/275 volts.

GENERATOR: 400 K. W., Direct Current; volts 250/275, Amp. 1450, 720 R. P. M., 4 poles, Compound Wound; Temp. Rise 35 deg. C.
Length Set over all.....12' 6"
Width Set over all.....6' 1"
Weight Set.....31,000 lbs.

Set complete, including Switchboard, with A. C. and D. C. Panels, with instruments, Auto. Transformers, Switches and Rheostats. Outfit new 1915.

Price and complete specifications on application.

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Our *Electric Motors* are not just motors, but are good *Motors*. You take no chances. Every machine guaranteed for one year. Do you want a *Motor*? Largest *Stock* in *America*. Do you want to *Sell* or *Trade*, either way?

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ROTARY CONVERTER

1—200 K. W., 250-275-volt, 1200 R. P. M. Westinghouse, NEW; complete, with switchboard panel and transformers for 2300 or 4000 volts, 3-phase, 60 cycles.

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1—100 K. W., 250-volt, 850 R. P. M. Generator to a 150 H. P., 3-phase, 60-cycle, 2090-volt Allis-Chalmers Motor, 2-bearing, with starter.

COMPOUND WOUND GENERATORS

125 VOLTS

Qu.	K. W.	Make.	Type.	Speed.
1	1/4	Westinghouse	S	650
2	1	Crocker-Wheeler	L	1500
1	1 1/2	Crocker-Wheeler	L	1400
1	2 1/2	Crocker-Wheeler	L	1450
1	3 1/2	Crocker-Wheeler	L	1200
1	8 1/4	Crocker-Wheeler	F	1300
1	8 1/2	Diehl	G	1400
1	9	Peerless		1400
1	9 1/2	General Electric	CVC	975
1	11 1/2	Crocker-Wheeler	D	1250
1	20	Westinghouse	M	1050
1	30	Triumph		800
1	30	Three Rivers		1000
1	30	Westinghouse	M	950
1	45	Sprague	D	1000
1	50	Ft. Wayne	MP	650
1	55	Westinghouse	S	850
1	80	Crocker-Wheeler	D	750

250 VOLTS

Qu.	K. W.	Make.	Type.	Speed.
1	30	General Electric	MP	750
1	30	Crocker-Wheeler	D	1200
1	150	General Electric	CLB	470
1	200	Westinghouse, 3-wire		500

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2—16"x8" South Bend.
2—15"x6" South Bend.
2—13"x5" South Bend.
26-48"x14" McCabe double spindle.
20"x9" Lehman, 3 step cone, quick change gear.
18"x9" Lehman, 3 step cone, quick change gear.
Several smaller lathes, new and used, in stock.

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6—20" Wheel and Lever, plain.
6—20" Back Geared, Power Feed.
2—24" Superior, stationary head.
Large stock of new and used smaller drills.

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No. 53 Toledo arch press, fly wheel type.
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We list below few selections from our stock for immediate shipment.

MOTORS.

No.	H. P.	Make.	Speed.
1	400	General Electric	300
2	200	Burke	375
1	100	Keystone	480
1	75	Keystone	600
1	50	Electro Dynamic	825
1	40	General Electric	1350
1	35	General Electric	1150
3	25	General Electric	1200
2	20	General Electric	1500
1	20	Westinghouse	1700
1	15	Allis-Chalmers	1170
1	10	General Electric	650
4	7 1/2	General Electric	950
3	5	Triumph	1300

MOTORS.

No.	H. P.	Make.	Speed.
1	200	Allis-Chalmers (all- ring)	600
1	75	General Electric	900
1	75	General Electric	1200
2	40	General Electric	900
1	40	General Electric	1200
2	30	General Electric	900
2	25	General Electric	1200
1	25	Wagner	900
2	25	General Electric	1800
2	20	General Electric	900

THE O'BRIEN MACHINERY CO.

119 North Third Street
Long Distance Bell Telephone, MARKET 2121

PHILADELPHIA, PA.
Cable Address, O'BRIEN, PHILADELPHIA

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1000-lb. Bement-Miles, double frame, steam.
600-lb. Bement-Miles, double frame, steam.
800-lb. Chambersburg, single frame, 50-lb. Little Giant, belt.
50-lb. Dienelt & Eisenhardt, belt.
25-lb. Little Giant, belt.

MISCELLANEOUS.

2—Pratt & Whitney Vertical Surface Grinders with rectangular magnetic chucks.
10" Wright Shaper.
20" Smith & Mills Shaper.
14" Smith & Mills Shaper.
24"x24"x6" New York Safety Planer.
8" Geo. Ohi heavy-gear hand-bending Brake.
4x6 Peerless Hinged Hack Saw.
6" Curtis & Curtis Pipe Machine.
New double-end Punch and Shear, 12" throat, capacity 5/8" in 5/8".

DIRECT-CONNECTED UNITS.

2—500 K. W., 250-volt, D. C. Burke. Erie vertical engine.
1—400 K. V. A., 220-volt, 3-phase, 60-cycle Ridgway, with Ridgway engine.
1—250 K. V. A., 220-volt, 2-phase Crocker-Wheeler, with Erie Ball engine.
1—135 K. W., 220-volt, D. C. Northern Reeves Vertical Engine.
1—60 K. W., 220-volt, D. C. Ridgway, with Ridgway engine.
1—25 K. W., 220-volt, D. C. General Electric, with Erie Ball engine.

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Large stock Steam and Centrifugal Pumps.

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2—65 K. W., 220-volt Triumph, with De La Vergne engines.

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2—18x18x24 Ingersoll-Rand, steam driven.
1—10x10x10 Laidlow-Dunn-Gordon.
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Also smaller sizes.

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10"x 8" Q. C. G. }
10"x 8" and 10" Q. C. G. } Standard Engine Lathes.
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20" Le Blond Heavy Duty Turret on carriage.
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18"x26" Libby Standard Turret Lathes.
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Foot-Burt & Colburn High-Power Drills.
Also—
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Brown & Sharpe and Norton Cylindrical Grinders.
Also—
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No. 50 1/4 Toledo Straight-Sided Presses, weight about 75,000 lbs.

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Two 250, one 300 and one 325 H. P. B. & W. Boilers, all complete, 150 lbs. steam; two 350 and one 275 H. P. Heine Boilers; 1800 4" boiler tubes 15 and 15 ft. long; 7x10 Saddle-Tank Locomotives, 24 and 30 gauge; two 100 H. P. Horizontal Boilers, 125 lbs. steam; one 75 Stack, 150 ft. long, heavy metal; 60 reels 1" to 2 1/2" Wire Ropes, long and short lengths; 10,000 ft. NEW bright and galvanized 3/8 Wire Ropes; 1000 H. P. NEW Closed Heaters; for NEW Stirling Tubes; one NEW 1918 Model Haynes 7 passenger Touring Car, 35 round Pressure Tanks, 44" diameter by 8 1/2 ft. long; 6x10 D. D. Hoisting Engine; one 25 H. P. Locomotive Type Boiler, 10 tons 6" Cast Iron B. & S. Pipe; 9x10 D. C. Single Drum Friction Hoist, large drum, one-yard Hayward Chain Shell Bucket. Will sell for cash or trade for boilers, engines, etc.

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160 H. P. Heine, water tube, butt strapped, new 1911; used 6 years; guarantee Maryland Casualty Insurance, 180 lbs.
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For Sale—200 H. P. Wickes Vertical Water-Tube Boiler with Armstrong Shaking Grates, 36"x56", steel stack, usual equipment, all in good condition, Hartford inspection, 140 pounds allowed.

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2-300 H. P. Water Tube Boilers. Built by Edgemore Iron Co. In fine condition; allowed 150 lbs. steam.

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Four (4) Westman Heavy-Duty 50 H. P. and one (1) 35 H. P. Oil Engines. Never been used. Immediate shipment. These engines are suitable for Cotton Gins, Elevators, Pumping, Electric-Light Plants, etc.

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100—4" x 14 ft
At Special Price

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ALEXANDRIA, LA.

FOR SALE

One Corliss Engine, Harris type, 18x42. One 8" Band Mill, Allis make. One Mershon Band Resaw, 60". Two High-Pressure Boilers, 150 H. P. Clyde Boilers.

Lot Shafting, Pulleys, Steam Pipe, etc. Above is for sale cheap and can be inspected at Enterprise, Miss.

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For Sale

Two (2) 250 H. P. Stirling Boilers, 140 lbs. working pressure, Class S, No. 39. Nine years old. Very good condition.

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Immediate Shipment—F. O. B. St. Louis.

1—100 K. W. General Electric 250 volt direct current, 400 amp., 550 R. P. M., Type C. L. 120. Form B Generator, serial No. 182092; complete with Rheostat and Rockwood paper pulley, 32" diam. by 20" face; also 24 extra new armature coils and one extra new bearing for pulley end. Machine in excellent operating condition.

Price F. O. B. Cars St. Louis, \$1400 00

If interested, use wires quick—our expense.

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1-400 H. P. Stirling Boiler, 150 lbs. pressure.
1-250 H. P. Stirling Boiler, 150 lbs. pressure.
2-150 H. P. Stirling Boilers, 150 lbs. pressure.
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1-14x36 Corliss Engine.
1800 Agricultural Gasoline Engines (new). Other Makes and Sizes.

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1218 CHESTNUT STREET
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H. P.	Make.	Pressure.	Price.
1-500	B. & W.	150	\$7500
2-350	Heine	150	4550
1-300	Heine	150	3900
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Insured 150 lbs. with Koney Stokers, Breeching and Stack.

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1-14x36 Hamilton Corliss Engine.
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For Sale—One 8"x10" 45 H. P. Center-crank Automatic Lycoming Engine, weight 6175 lbs., in absolutely first-class condition. Address

BOX 147

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1-Manning Boiler, 150 H. P., 125 lbs., complete with stack.
1-Stack, 24" dia. x 60' long, self-supporting.
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About 200 H. P.; cylinder 24x42; wheel 16 ft. diameter; 30-in. face. Excellent condition. Must be sold.

SCHADEWALD MILLS

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INSTANT SHIPMENT A No. 1 POWER APPARATUS**BOILERS**

1-1400 H. P. Complete Boiler Plant, consisting of:

4-350 H. P. Stirling, Class N, No. 14, 190 lbs. steam pressure, 150 degrees superheat Boilers, complete, with all piping, valves, breeching, heaters, pumps, etc.

2-400 H. P. A. & T. B. & W. Steel Header, 175-lb., re-erection, triple riveted butt joint, with Green chain-grate stokers.

1-500 H. P. B. & W. Steel Header, 185 lbs. Allow., Butt Joint, Double Riveted, with Chain Grate Stokers.

1-567 H. P. Stirling Lap Seam Drum, 150-lb. allow.; perfect condition, hand fired.

7-72-in. x 18-ft. triple riv., butt joint, 150-lb. allow., hand fired; stacks and all fittings.

1-250 H. P. Steel Header A. & T. B. & W. type Boiler, 175 lbs. Allow., Triple Riveted, Butt Joint Drums. Hand Fired.

2-250 H. P. Heine, 150 lbs. allowance, Hand-Fired Boilers; first-class condition.

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2-400 K. W. General Electric, 60-cycle, 3-phase, 2200-volt, R. F. Alt., dir. con. to H. D. cross-compound Corliss engine.

25-CYCLE UNITS

2-300 K. W. Westinghouse, 25-cy., 3-ph., 440-v., R. F. Alternator, dir. con. to cross-comp. Allis-Chalmers, heavy-duty, double-ported, double-eccentric engines.

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3-1000 K. V. A. Westinghouse, 25-cy., 3-ph., 440-v. Alternator, with cross-compound, heavy-duty Corliss engines.

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CINCINNATI, OHIO

DIRECT CURRENT UNITS

1-1600 K. W. General Electric, 250-v., D. C. Generator, direct connected to heavy-duty Cross-Compound Corliss Engine.

TURBINES

1-1000 K. W. (old rated actual capacity approximately 1600-1800 K. W.) Westinghouse Horizontal Condensing Turbo Alternator Unit, 60-cy., 3-ph., 2300-4400-v., 1800 R. P. M., complete, with surface condensers, piping, etc., to make complete installation.

1-9300 K. V. A. Westinghouse-Parsons Condensing Turbo Alternator, 80 per cent. P. F., 60-cy., 3-ph., 2300-v., 1800 R. P. M., complete, with condenser.

1-5000 K. W. Allis-Chalmers (New) Turbo Alternator, without condenser, 80 per cent. P. F., 60-cy., 3-ph., 2300-v.

1-1500 K. W. Westinghouse-Parsons Condensing Turbo Alternator (Old Rated), approximately 2500 K. W. capacity, 60-cy., 2-ph., 2400-4800-v., with Wheeler condenser.

FREQUENCY CHANGER SET
1-1000 K. W. Westinghouse Frequency Changer Set, 60-cy., 3-ph., 2300-v., to 30-cy., 6600-v., on sub-base and solid shaft, with dir. con. exciter.

ROTARIES

1-250 K. W. Westinghouse, 25-cy., 3-ph., Rotary, 370-v., A. C.; 550-v. D. C., with 3-100 K. V. A. transformers, 600-v. primary panel, etc.

1-600 K. W. G. E., 60-cy., 3-ph., 440-v., A. C.; 600-v. D. C., with transformer 13,200-v. primary, panel, etc.

MOTORS

1-1200 H. P. General Electric, 25-cy., 3-ph., 2200-v., 250 R. P. M. Induction Motor, complete, with shaft extension both ends.

1-250 H. P. Burke, 60-cy., 2 or 3-ph., 2200-v. Synchronous Slip-Ring Motor, with panel, coupled to 24-in. Platt twin rotating pump, Twenty Million G. P. D., 45-ft. head.

For Sale or Rent

3 miles Portable Track, 36" gauge.
3 miles Portable Track, 24" gauge.
30 Side Dump Cars, 24" gauge.
30 End Dump Cars, 36" gauge.
1 Bell Locomotive, oil, standard gauge.
2 Holt Caterpillar Tractors.
1 Port Huron Roller, 3-wheel, 10-ton.
1 Kelly-Springfield Tandem, 6-ton.
1 Kelly-Springfield, 3-wheel, 10-ton.

D. B. Straley

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BOILERS Second Hand

2-150 H. P. 72"x18" Erie Iron Works Return Tubular Boilers.

2-60 H. P. 60"x16" Atlas Return Tubular Boilers. All complete with stacks, grates, etc.

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28x48 Wetherill. 22x42 Frick.
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Water Tube Boilers

3-500 H. P. Stirling, 175 lbs. pressure. Extra heavy flanged steam header. Individual stacks.

4-250 H. P. Stirling, same as above.

2-400 H. P. Babcock & Wilcox, 160 lbs. pressure.

Innumerable others. All sizes.

POWER EQUIPMENT CO., Engineers

1218 CHESTNUT STREET
PHILADELPHIA, PA.

BOILERS

4-450 H. P. Sterling Water Tube Boilers, 175 lbs.
3-400 H. P. Altman & Taylor Water Tube Boilers, 150 lbs.
2-400 H. P. B. & W. Water Tube Boilers, 165 lbs.

LOCOMOTIVE TYPE BOILERS

1-40 H. P.; 1-65 H. P.; 1-125 H. P.; 1-150 H. P.

LOCOMOTIVE CRANES

1-20-Ton Industrial, 48 ft Boom.

1-20-Ton Orton & Steinbrenner.

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WE PURCHASE COMPLETE PLANTS—

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Sun Power Equipment Company

COMMERCIAL TRUST BLDG.,

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FOR SALE DIESEL OIL AND GAS ENGINES. GENERATORS. MOTORS.

FIRST-CLASS CONDITION.

PROMPT DELIVERY.

American Diesel Oil Engines:

- 1-120 B. H. P. Vert. 3-cyl. Belted.
- 1-170 B. H. P. Vert. 3-cyl. Belted.
- 1-225 B. H. P. Vert. 3-cyl. Belted.
- 1-250 B. H. P. Vert. 6-cyl. ea. D. C. to 3-ph. 60-cy. A. C. Gen'r.
- 1-150 H. P. 3-cyl. Vert. Gas Eng., D. C. to 100 K. W. 220-v. D. C. Gen'r.
- 1-100 H. P. 3-cyl. Vert. Gas Eng., D. C. to 65 K. W. 125-250-v. 3-wire Gen'r.
- 1-35 H. P. Horiz. 2-cyl. Oil Eng.
- 1-85 K. V. A. 3-ph. 60-cy. 2200-v. Gen'r., belted.
- 1-75 K. V. A. 3-ph. 60-cy. 220-v. Eng. Type Gen'r.
- 1-60 K. V. A. 3-ph. 60-cy. 2200-v. Gen'r., belted.
- 2-20 H. P. 3-ph. 60-cy. 220-v. Motors.

A. McMILLAN - 619 Monadnock Block - CHICAGO
SPECIALIST IN DIESEL OIL ENGINEERING

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for immediate shipment

- 1 —S & 12x6x10 Worthington Compound Duplex Piston Pattern Pumps for 150-lb. Water Pressure.
- 1 —14x7x12 Knowles Single Double Cap Piston Pump, Brass Fitted.
- 1 —10x14x10 Blake Rotative Dry Vacuum Pump.
- 1 —10x20x10 Blake Rotative Dry Vacuum Pump.

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WORTHINGTON PUMP AND MACHINERY CORPORATION

115 Broadway, New York

1-108.2

CORLISS ENGINE FOR SALE

1—80 H. P. Atlas Corliss Engine
In first class condition. Can be seen in operation to January 1, 1919, when available for delivery.

BUCKEYE IRON & BRASS WORKS
DAYTON, OHIO

BOILERS BOILERS BOILERS BOILERS HRT BOILERS, Steel Encased

BOILER No. 1

1—72x18 H. R. T. Steel-Encased Suspension Setting Atlas Boiler, containing 70—4" tubes, 1/2" head. Longitudinal seams are Butt Joint Triple Riveted, strapped inside and outside. Has Extension Front, 5x6 ft. Shaker Grates and Stack 36x60 ft. Pressure now allowed 115 pounds. No Leaks, Bags, Blisters or Patches. Price \$1100 f. o. b. Kentucky.

BOILER No. 2

1—72x18 H. R. T. Steel-Encased Suspension Setting Houston-Stamwood-Gamble Boiler, containing 70—4" tubes, 1/2" head. Longitudinal seams are Butt Joint Triple Riveted, strapped inside and outside. Has Extension Front, 5x6 ft. Shaker Grates and Stack 36x25 ft. Pressure now allowed 115 pounds. No Bags, Blisters, Leaks or Patches. Price \$1100 f. o. b. cars Kentucky.

BOILER No. 3A

1—72x18 H. R. T. Steel-Encased Suspension Setting Walsh & Widener Boiler, containing 70—4" tubes, 1/2" head. Longitudinal seams, Butt Joint Triple Riveted, strapped inside and outside. Has Full Flush Fronts, 5x6 ft. Shaker Grates and Stack 36x60 ft. This Boiler has One Patch, 24x36", over grate. Pressure now allowed 110 pounds. Price \$1000 f. o. b. cars Kentucky.

BARGAINS here for somebody needing Boilers. INSTANT SHIPMENT.

If interested, use wires immediately at our expense.

Address: WOOD & LANE COMPANY, St. Louis, Mo.

Boiler for Sale

One 250-horse-power Wickes Vertical Water-Tube Boiler. Designed for 200 pounds steam pressure. Has been in service less than three months; is good as new. Bargain price and immediate shipment. Address
A-25 Care of Manufacturers Record
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RETURN TUBULAR AND PORTABLE BOILERS

- 2—72"x30", flush fronts, 150 lbs.
- 1—72"x18", flush front, 125 lbs.
- 1—200 H. P. Berry; no brick setting required; 130 lbs.
- 3—150 H. P. Berry; no brick setting required; 130 lbs.
- 1—100 H. P. Economic; no brick setting required; 125 lbs.

POWELL EQUIPMENT COMPANY, Engrs.
1218 Chestnut Street Philadelphia, Pa.

Water Tube Boilers

5 400 H. P. each Heine Type Self-contained Water-Tube Boilers, each equipped with Green Traveling Chain Grate Stoker. Boilers good for 150 lbs. pressure.

PFANNMUELLER ENGINEERING CO.
1733 First National Bank Bldg. Chicago

For Sale

- 1 10"x12" High-Speed Automatic Center-Crank Balanced Valve Engine.

- 2 Flywheels, 10"x64", 35 H. P.

1 G. E. Generator,

D. C., 110 volts, 22 K. W.

- 1 24"x48" Geo. Corliss Engine, 450 H. P.

- Flywheel 22", 17 grooves for 1 3/4" rope.

Jack Shaft has two cranks. One for low-pressure side.

Montala Manufacturing Co.
Montgomery, Alabama

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For Sale at a Bargain

- 1—1000-lb. double-stand Bement-Niles.
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 - 1—800 lbs. double-stand Chambersburg.
- These hammers are of the latest type and are in good operative condition. Must be moved immediately. Located at Carlisle, Pa. Address

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FOR SALE

- 1—14x36 Lane & Bodley Corliss Engine.
- 1—Steam Dryer System for Brick Plants of 25,000 per day capacity.
- 1—McIntosh & Seymour High-Speed 7x9 Engine.
- 1—Steele & Sons Brick Machine, Pug Mill, Hoisting Drum, Clay Feeder, Pulley Shafting, etc.
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Steel Stack, diameter 8 feet, height 125 feet, thickness 1/2 inch at bottom to 5-16 inch at top, with ladder outside of stack. Will be sold f. o. b. cars Chicago.

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6401 S. State St. CHICAGO, ILL.

FOR SALE

- 20—20", 100-lb. I-Beams, 37'0" long.
- 20—20", 100-lb. I-Beams, 23'0" long.
- 2—25", 125-lb. I-Beams, 47'6" long.
- 10—12", 55-lb. I-Beams, 23'4" long.
- 1—14" c-l. ell—B. & S.
- 1—14" c-l. tee—B. & S.
- 1—14" c-l. pipe, 7' long—B. & S.
- 10—Pieces 3/4"x4 common iron, 6'6".
- 1—5'0"x5'0"x3/16" steel stack.
- 58—Ft. 20" riveted gas main, 3/16".
- 12—12" c-l. pipe, FF&D, 17" long.
- 13—12x6x12 c-l. tees, FF&D.
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- 2—28" 90° ells, FF&D.
- 1—28"x18" fuller ring, FF&D.
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- 1—20" c-l. expansion joint.
- 34,000—Standard 9" fire brick.

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- 1 H. P. De La Vergne Horizontal; practically new.
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- 1 H. P. De La Vergne Horizontal; practically new.
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- 1—50 H. P. ea. Edge Moor Water Tube Boilers.
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- 2—Steam Engines, various sizes.
- 2—Steam and Vacuum Pumps, various sizes.
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(One 12"x36" Green Engine in A-1 condition for immediate shipment.

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- 1—Twin Engine, double-spool worm-drive capstan.
- 1—Duplex Fire Pump.
- 1—Deck Pump.
- 1—Hot and Cold Water Doctor Pump, for boiler feed.
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- 1—Ingersoll, Class P. C., 2200 ft., 100 lbs., Compound, with 350 ft. E. motor, 187 R. P. M., 6000 volts, 3-phase, 25-cycle, complete. Also equipped for 3750 cu. ft., 50 lbs.
- 1—Ingersoll Compound, 1200 ft., with 200 H. P. motor, 2-3-phase, 60-cycle, 220 volts.

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- 1-50-ton Ice Plant, York, steam driven.
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- 1-50-ton Ice Plant, Vilter, steam driven.
- 1-15-ton Ice Plant, York, chain driven.
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- 1-50-ton Ref. Mach., York, steam driven.
- 1-80-ton Ref. Mach., Frick, steam driven.
- 1-80-ton Ref. Mach., Vilter, steam driven.
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- 1-40-ton Ref. Mach., Wolf, steam driven.
- 1-25-ton Ref. Mach., Wolf, steam driven.

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- 1-422 Cans, complete, De La Vergne.
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- 2-580 Cans each, complete, De La Vergne.
- 1-460 200 lb. cans, complete.
- 1-560 200 lb. cans, complete.
- 1-560 200 lb. cans, complete.

REFRIGERATING PLANTS

- 1-18-ton Belt or Steam-drive Vilter.
- 2-10-ton Belt Vilter, upright, enclosed, complete.
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For Sale Cheap

- 1-Horizontal High Pressure No. 3 Root Blower; in use 2 months.
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- 2-54" Akins Classifiers, 1 left hand and 1 right hand; in use 10 months.

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EQUIPMENT AND SUPPLIES FOR
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- 1-W. H. Wood Hydraulic Riveter, complete with accumulator, high-pressure pump, container and hydraulic hoist. Riveter has 8-ft. 3-in. gap.

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- 1-Lennox Rotary Bevel Shear, size No. 2, with cutting discs or shear blades; capacity, 3/4-in. steel.

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- 1-American, 42-in. arm, 36-in. swing cone drive, worm movement; swinging and tilting table.

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- 1-10-in. throat, machine capacity 3/4 in. through 3/4 in.

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- 1-No. 4 Long & Allstater; 5-in. throat.

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- 1-Allen 72-in. Portable Pneumatic Hammer, boiler or plate riveter; capacity, 1-in. rivets.

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CHICAGO, ILL

- 1-10x10 Rand Imperial Belted Air Compressor.
- 1-35 H. P., 500-volt, D. C., motor-driven, double-drum Hoist.
- 1-7x27 Steel Car Tank.
- 1-25-ton Vilter Corliss Ice Machine.
- 1-Three-yard, two-line Orange Peel Bucket.
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- 1-24x48 Fishkill Corliss Engine.
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- 1-750 gal. Worthington Fire Pump.
- 1-10" Worthington Volute Pump.

Consolidated Machinery
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Consisting of three 7-section 1 1/2" pipe heater; 15,360 ft. pipe enclosed housing, 9' high, 21" long, 18" wide; steel plate fan, 14' high, 6' wide, bottom side up discharge, 7x6-ft. discharge, 8-ft. inlet, direct connected to 10-in. by 12-in. left-hand horizontal side disc crank slide-valve engine, in A1 condition.

If interested, make me your offer.

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Wire Cable Rope

In Any Lengths.

1 inch and under in Diameter.

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Used Machinery

Logging, Railroad, Sawmill, Planing Mill, Cableway, Power Plant, Yard, Fire Protection, Electric, Engineering, Club House, Hotel and Ice-Plant Machinery and Equipment, including following and many other items:
BAKE OVEN—Burton Four-Shelf Improved.
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First-Class Used Machinery

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SHAFTINGS—PULLEYS
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All in good condition

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2-50'x10'x5' capacity, 19,000 gallons each. Have been used for water only. Are well braced and in fine condition.

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MINE LOCOMOTIVE AND MINING MACHINES

INSTANT shipment from St. Louis—Splendid Condition.

Our price will sell this equipment immediately.

- 1-8-ton Morgan Gardner Class F Mine Locomotive, 250-v., 42" Track Gauge, Double Motor Type and Double End Control, 28" Wheels, with New Steel Tires. This equipment has had only about one year's Actual Service, and is in excellent operating condition.
- 4-Type HHD Morgan Gardner Breast Type Mining Machines, 250-v., Direct Current, 42" Track Gauge, 6-foot Cutter Bar. (Gauge can be changed). Rebuilt and in first-class operating condition. You will make no mistake in buying. If interested, use the wires quick, our expense.

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FIRST CLASS
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Immediate Delivery

- 36"x36"x24" L. W. Pond Planer, two heads on cross rail.
- Landis 12"x66" Plain Grinder, with Universal Headstock.
- Landis 10"x30" Plain Grinder, with Universal Headstock.
- 2-Brown & Sharpe No. 3 26" Automatic Gear Cutters.
- 24" Cincinnati High-Speed Shaft-Driven Upright Drill, with gear box and tapping attachment.
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8 ft. Band Mill complete with Boilers, Engines, Pumps, Shafting, Boxes, Pulleys, Resaws, Piping, Etc.

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Light machine, die and stamping work in iron, steel, brass, aluminum and other metals. Will take orders too small for the "big fellows" and guarantee quality and prompt deliveries.
Capacity for light-weight castings.
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- No. 1-Allis-Chalmers 11.6 amperes, 120 volts, D. C. Generators at 1700 R. P. M., mounted on same base with and direct connected to motors same size and type.
- No. 1-25 K. W. 120 volts, D. C. Allis-Chalmers Generator at 850 R. P. M., mounted on same base with and direct connected to a 40 H. P. Allis-Chalmers 3-phase, 60-cycle, 220 volts induction motor.
- No. 1-27½ K. W. Lincoln 115-volt, 900 R. P. M., D. C. Generator mounted on same base with and direct connected to a 60 H. P. Lincoln 3-phase, 60-cycle, 220-volt induction motor.
- No. 1-50 K. W. Triumph 125 volts, 1150 R. P. M., D. C. Generator on same base with and direct connected to a 75 H. P. Triumph 3-phase, 60-cycle, 220-volt motor.
- No. 1-New 100 K. W. Ridgway, 275-volt, D. C. Generator, mounted on same base with and direct connected to a Ridgway Synchronous 3-phase, 60-cycle, 2200 volts, 900 R. P. M. Motor.
- No. 1-New 150 K. W. G. E. 275 volts, 1200 R. P. M., D. C. Generator, mounted on same base with and direct connected to a G. E. 225 KVA. type ATL 3-phase, 60-cycle, 2200 volts, 1200 R. P. M. Synchronous Motor with 2-panel switchboard and instruments for controlling.

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- No. 1-164 H. P. Sterling Water-Tube.
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DIRECT CURRENT MOTORS

220-250-500 VOLTS.

All rebuilt.

No. H. P. Make.	Volts.	R.P.M.
1-100 Allis-Chal.	220 Shunt wound	650
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1-50 Allis-Chal.	220 Shunt wound	800
1-35 Gen. Elec.	220 Shunt wound	975
1-30 Northern	220 Compd. wound	600
1-25 Fisher	250 Shunt wound	650
1-25 Gen. Elec.	220 Shunt wound	975
1-10 Jants & Leist	220 Shunt wound	900

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- No. 1-53 to 166 H. P. 12x30 Lane & Bodley.
- No. 1-75 to 100 H. P. 12½x18 Atlas Auto.
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- No. 1-50 H. P. 9x16 Brownell Automatic.
- No. 1-35 H. P. 10x14 Chandler & Taylor.
- No. 1-30 H. P. 9x12 Nagel.
- No. 1-16 H. P. 7½x14 Brownell.
- No. 1-8 H. P. 6x8 Clark Vert.

MOTORS A. C.

3-PHASE, 60-CYCLE, SLIP-RING TYPE.

No. H. P.	Make.	Volts.	R.P.M.
1-10 New General Electric	220	1200	
1-25 New General Electric	440	1200	
1-40 New General Electric	440	900	
1-50 New Allis-Chalmers	440	900	
1-75 New General Electric	2200	900	
1-75 New General Electric	440	900	
1-100 New General Electric	440	720	
2-150 New General Electric	440	720	

MOTORS A. C.

3-PHASE, 60-CYCLE, SQUIRREL-CAGE

No. H. P.	Make.	Volts.	R.P.M.
15-7½	New General Electric	220	1800
2-7½	New General Electric	220	900
2-10	New General Electric	220	1200
2-15	New General Electric	220	1200
5-20	New General Electric	220	1800
4-30	New General Electric	220	1200
3-30	New General Electric	220	900
6-30	New General Electric	220	1200
2-30	New General Electric	220	900
1-40	New General Electric	220	1200
1-40	New General Electric	220	900
4-50	New General Electric	220	900
4-75	New General Electric	220	900
1-100	New General Electric	220	900

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- 10"x4" Prentice H. S. C. R.
- 13"x7" 6" New Carroll-Jameson Plain Change.
- 14"x 6" New Carroll-Jameson Q. C.
- 14"x 6" Canedy-Otto. New.
- 15"x 6" New Sidney Q. C., swings 17".
- 16"x 8" Hendy Q. C., taper attach.
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- 16"x24" New Rahn Larmon D. B. G., Q. C.
- 17"x 8" New National C. R., Q. C.
- 17"x 8" New Sidney Q. C., swings 19".
- 18"x 8" Canedy-Otto. New.
- 19"x 8" New Sidney Q. C., swings 21".
- 20"x12" Hendy Q. C., taper attach.
- 25"x16" New Sidney Q. C., swings 27".
- 28"x48" 14" Harrington Extension.
- 33"x12" Putnam T. G. Motor.

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- 2"x24" J. & L. Cone Head, complete.
- 24" Davis Chucking.
- No. 1 Bardon & Oliver Screw.

VERTICAL BORING MILLS

- 60" Bullard, two heads.
- 64" Niles, two heads.

PLANERS

- 36"x36"x8" Gray, two heads.
- 30"x27"x8" Smith, one head.
- 27"x23"x6" Smith, one head.
- 18"x 8"x3" Wheeler, one head.

SHAPERS

- 16" New Steptoe B. G.
- 20" New Steptoe B. G.
- 24" New Steptoe B. G.
- 16" Bement Travel Head.
- 16" Barker Travel Head.

MILLERS

- No. 4 Brown & Sharpe Plain.
- No. 3 Cincinnati Universal.
- No. 3 Kempsmith Universal. New.
- No. 1½ New American Plain.
- No. 0 Steptoe Hand. New.
- No. 2 Burke Bench, P. F.

GRINDERS

- No. 1 Fraser Universal. New.
- No. 1 Landis.
- No. 6 Coates, new Universal cutter and reamer.
- Nos. 1 and 2 Grand Rapids; new cutter and reamer.
- No. 190 Wells.

RADIAL DRILLS

- 6" Western Univ. Motor.
- 42" New Plain Canedy-Ott.
- 48" Mueller Plain.
- 60" Bickford Plain.

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- 14" New U. S. Sensitive.
- 16" New C. O. Sensitive.
- No. 23 New Demco Sensitive.
- 16" New Kokomo Hi-Speed.
- 20" New Kokomo 4-spindle.
- 20" Superior B. G., P. F. New.
- 20" C.-O. B. G., P. F. New.
- 24" Superior B. G., P. F. New.
- 25" Superior S. H. New.
- 28" Superior S. H. New.
- 32" Superior S. H. New.
- 36" Superior S. H. New.
- 36" Bement Goose Neck.

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- No. 6 Fellows Gear Shaper.
- 36 G. & E. Automatic.
- 24" G. E. Automatic.
- No. 14 Whiton, 36".

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- 400-lb. Sellers Steam.
- 250-lb. New Little Giant.
- 100-lb. New Little Giant.
- 50-lb. New Little Giant.
- 25-lb. New Little Giant.

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- No. 53 Beloit; new Punch and Shear.
- No. 9-B Beloit; new Punch and Shear.
- 20" Throat Ridgeway Geared Single End Punch, 1½" in 1".

METAL SAWS

- Napier, 10x10 Band.
- Napier, 13"x16" Hi-Speed.
- Napier, 9x9 Hi-Speed.
- Napier, 6x6 Hi-Speed.
- Economy No. 3, Hi-Speed.
- Espen-Lucas 14" Saw; bar, circular.

MISCELLANEOUS

- National 5-spindle 1.4 to 3.4 Nut Taper.
- Cleveland 4"x15 Thread Miller.
- Chucks, Univ. Combination and Independent, 6" to 24".

"STEAM AND ELECTRICAL EQUIPMENT"

WATER TUBE BOILERS

- 1-250 H. P. Babcock & Wilcox Water-Tube Boiler; 150 pounds steam working pressure.
- 2-75 H. P. Sterling Water-Tube Boilers; 150 pounds steam working pressure.

PORTABLE RETURN TUBULAR BOILERS

- 100 H. P. Erie City Iron Works, Economic, 125 pounds steam pressure, with 60" of 30" diameter stack.
- 80 H. P. Erie City Iron Works, Economic, 100 pounds steam pressure.
- 50 H. P. Pennsylvania Iron Works, Marine type, 100 pounds steam pressure.

DIRECT-CONNECTED UNIT, 220-250 VOLTS

- 100 K. W. Crocker-Wheeler 250-volt 3-pole compound-wound Generator, direct connected to a 14"x21" Hamilton Horizontal Corliss Engine, 150 R. P. M.

DIRECT-CONNECTED UNIT, 110-125 VOLTS

- 100 K. W. General Electric 125-volt compound-wound Generator, direct connected to a Ball & Wood Horizontal Compound Automatic Engine, 250 R. P. M.
- 50 K. W. Bullock compound-wound Generator, direct connected to an Erie City Iron Works Horizontal Automatic Engine, 250 R. P. M.

AIR COMPRESSORS

We have recently purchased the entire Compressor Stock of the Nagle-Corliss Engine Works, Erie, Pa., manufacturers of high-grade Compressors. We can offer the following machines with the usual factory guarantee, complete, with their regular equipment, and available for immediate shipment:

BELT-DRIVEN

- 1-20-12x12 Enclosed type, 872 cu. ft. capacity.
- 2-10x10 Class "AE", enclosed, 240 cu. ft. capacity.
- 1-10x10 Class "A", enclosed, 204 cu. ft. capacity.
- 1-8x8 Type "A", open, 116 cu. ft. capacity.

STEAM-DRIVEN

- 1-10x10x10 Class "B", enclosed type, 204 cu. ft. cap.
- 2-8x10x8 Class "BE", enclosed type, 181 cu. ft. cap.
- 1-8x9x8 Class "B", enclosed type, 147 cu. ft. capacity.
- 1-8x8x8 Class "B", enclosed type, 116 cu. ft. capacity.
- 1-8x6x6 Class "D", enclosed type, 59 cu. ft. capacity.

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Railroad and Contractors' Equipment and Supplies.

For Sale Rebuilt and Second- Hand Machinery HOISTING ENGINES

- 1-Lidgerwood 8 1/2 x 8 D. C., D. D., steel geared, with boiler.
- 1-Lidgerwood, 7 1/2 x 10, D. C., D. D., Skeleton.
- 1-O. & S. 6 1/2 x 10, D. C., D. D., with boiler.
- 1-National, 6 x 8, D. C., D. D., with boiler.
- 1-Lidgerwood, 6 1/2 x 8 D. C., S. D., with or without boiler.
- 1-Exeter, 6 1/2 x 8 D. C., S. D., with or without boiler.
- 1-Reversible Link Motion, 9 x 12, D. C., S. D., with boiler.
- 1-Hunt, 8 x 10, D. C., S. D. High-Speed Coal Hoist Engines, Skeletons.

CONCRETE MIXERS

- 1-Ransome No. 62 Portable, 24 ft. capacity, 14 H. P. boiler and 9 H. P. upright engine, with hoisting bucket and receiving hopper.
- 1-Exeter Continuous Mixer No. 3, self-propelled, on wheels, complete.
- 1-Marsh-Capron Mixer, 9 ft. capacity, with gasoline engine, portable.

PUMPS

- *1-Worthington Duplex Compound Condensing Pump, 12x24x13 1/2 x 18, rated at 44 gallons per stroke and 42 strokes per minute on 100 lbs. steam pressure, with jet condenser.
 - *2-Worthington Triple Expansion Direct Duplex Condensing Pumping Engines, 10x16x25x18 1/2 x 18, rated at 83 gallons per stroke and five million gallons per day capacity each. Have surface condensers.
 - 1-Knowles Duplex Steam Pump, 8x8x12, 7" suction, 6" discharge. Brass lined and brass rods.
 - 1-Davidson Single-Action High-Pressure Pump, 14x17 1/2 x 10 1/2, 8" suction, 7" discharge. Brass rod.
 - 1-Direct-connected Centrifugal Pump and Engine, Pump 8" suction, 3" discharge. Engine 12" stroke, 11" bore.
- *Note—These pumps were used by City of Jacksonville to furnish water and fire protection for a number of years, and are still set up at city water-works plant, where inspection can be made while running. Were discarded only because larger pumps being installed.

MISCELLANEOUS

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 - 1-25-ton Standard Gauge Locomotive and Tender.
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It will hoist 1500 pounds at the rate of 400 feet a minute.
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MISCELLANEOUS.

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- 2-40-ton, standard-gauge, 4-wheel, Saddle-Tank Americans.
- 1-55-ton, standard-gauge, 6-wheel, Saddle-Tank Baldwin.

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MISCELLANEOUS.

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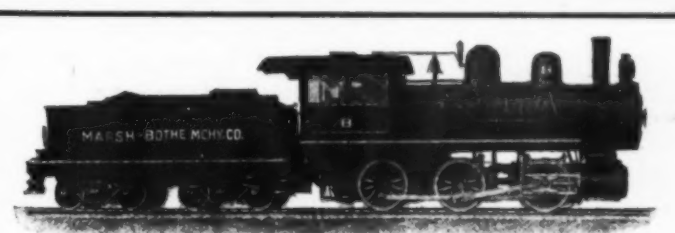
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- 2—Mundy, 6½x10, D. C., D. D., with boilers.
- 1—National, 5½x10, D. C., D. D., with boiler.
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- 6000 ft., strictly first-class 6" wrought-steel Pipe, equally as good as new.
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- 400 ft., 24" dia., 30' lengths, equally as good as new.

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- 1—65-ton Bucyrus, 2½-yd. dipper, standard gauge.
- 1—No. 1 Thew Traction Steam Shovel, ¾-yd. dipper.

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- 1—Morris No. 12, 14" suction, 12" discharge, direct connected to horizontal engine, 18x10, 4500 gallons capacity per minute.
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14" Diameter, 6' Lift.

IMMEDIATE DELIVERY.

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Railway Exchange Bldg. Chicago, Ill.

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Immediate Shipment**

Two (2) 15-ton 8-wheel Brownhoist Locomotive Cranes, with 1½-yd. bucket, 50' booms.

One (1) Type "B" Erie Revolving Steam Shovel, equipped with standard steam-shovel dipper handle and ¾-yd. dipper, also New Locomotive Crane, boom and clamshell.

GENERAL EQUIPMENT CO.

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Steam Shovels

- 1 Model 70 Bucyrus.
 - 1 Model 60 Marion.
 - 1 No. 0 Thew.
 - 1 Erie, with extra boom and clamshell bucket.
 - 1 Model 28 Marion.
 - 1 Keystone Grader.
 - 1 10-ton Steel Derrick, complete, with 8½x10 D. C. D. D. Lidgerwood Engine and Boiler.
 - 1 10x30 Acme Crusher, with elevator and screen.
 - 1 ½-yard Smith-Chicago Concrete Mixer, with engine and boiler on wheels.
- A large quantity of small equipment and tools.

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Steel Derrick Car, Derricks, Dredge Buckets, Engines and Pumps.

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**ELECTRIC TRAVELING
CRANE
FOR SALE**

- 1—Alfred Box 4-motor, 25-ton Crane with 5-ton auxiliary Hoist, 52' span, 220 volt, D. C., in good working order, delivery sixty days.

Henry A. Hitner's Sons Co.
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FOR SALE**

- 1—14"x20"x12"x10" Duplex Compound Condensing Worthington Pumping Engine complete, including new set valves, Capacity 1000 gals. per minute against 150 lbs. pressure.
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If you wish to keep posted on the progress of the South, read the **MANUFACTURERS RECORD**
Price \$6.50 a year, six months for \$3.25.

REPAIRED CONTRACTORS' EQUIPMENT**Locomotive Crane**

7½-ton Industrial, 4-wheel, 30' boom, bucket operating.

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- 70-C Bucyrus, 2½-yard dipper, shop number 1712.
- Model 60 Marion, 2½-yard dipper, shop number 1999.
- Model 35-B Bucyrus, shop number 1837, full revolving, caterpillar traction, 1¼ and 1½-yard dippers.
- Model 75 Marion, 4-yard dipper, shop number 2191.
- Model 70 Marion, 2½-yard dipper, shop number 2693.
- Type "B" Erie, ¾-yard dipper, full revolving, traction wheels, shop number 256.

Locomotives

- 1—50-ton, 6-wheel Switcher, standard gauge.
- 4—18-ton, 4-wheel, 10x16" Dinkeys, 36" gauge.
- 2—15-ton, 4-wheel, 9x14" Dinkeys, 36" gauge.
- 2—10-ton, 4-wheel, 7x12" Dinkeys, 36" gauge.

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- 20—12-yard Western Air Dump, standard gauge.
- 100—4-yard Western Steel Beam, 36" gauge.
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- 1—Western Spreader, hand operated, 36" gauge.
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We have a large stock of thoroughly repaired construction equipment of all kinds ready for immediate shipment.

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1-20-TON BROWN HOIST LOCOMOTIVE CRANE, equipped with STANDARD-GAUGE 8-WHEEL RAILROAD TRUCKS, 50-FT. BOOM, etc., USED VERY LITTLE. Just like new. IMMEDIATE SHIPMENT.

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Porter 4-wheel 12 in. x 16 in. Saddle Tank, weighing 25 tons.
American 4-wheel 14 in. x 24 in. Saddle Tank, weighing 35 tons.
American Moguls, 18 in. x 24 in., square tender, weighing 55 tons.

36-INCH GAUGE LOCOMOTIVES

Porter 4-wheel 9 in. x 14 in. Saddle Tanks, Contractor's type.
Valcan 4-wheel 9 in. x 14 in. Saddle Tanks, Contractor's type.
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Baldwin Consolidation 15 in. x 20 in., square tender, weighing 38 tons.
American Forney 10 in. x 16 in., weighing 25 tons, 2-44 type.

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Flory 10 in. x 12 in., double cylinder, single drum, without boiler.
Flory 9 in. x 10 in., double cylinder, double drum, with boiler.
Stensborg 8 1/2 x 10 in., D. C., D. D., with boiler.
Flory 10 in. x 12 in., D. C., D. D., with boiler.

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20 tons 30-lb. relaying rails with bars.
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1-10-ton standard-gauge locomotive with tender.
1-6-ton standard-gauge locomotive with tender.
1 logging cars with 26-in. wheels, standard gauge.
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We also have available for two weeks' delivery 800 tons, 35-lb. relaying rails with angle bars.
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Working, 4-wheel, 15-ton, 48-inch boiler, boom. Can be seen in operation; also 4-wheel Industrial Crane. Write for particulars.

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1—Industrial, 10-ton, 4-wheel, 40' boom, double line, 1 yd. Clam Shell.

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40 Standard and 36" gauge modern direct-connected Locomotives in all types and weights from 8 to 75 tons.

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3000 tons Relaying Rails, all sizes, on our Birmingham yards.

100 sets 35 and 40-lb. Frogs and Switches, good as new.

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NEW—12-lb., 16-lb., 20-lb., 25-lb., 30-lb., 40-lb.

NEW—60-lb., 70-lb., 75-lb., 80-lb., 85-lb., 90-lb.

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RELAYERS—70-lb., 80-lb., 85-lb., 90-lb., 100-lb.

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Complete, with splice bars.

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1-30' boom McMyler Electric Locomotive

Crane with 1 1/4-yard Bucket.

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Complete line Rebuilt Steam and Electric

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Also Compressors, Mixers, Derricks, Cable-

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All Sizes.

Relaying Steel Rails

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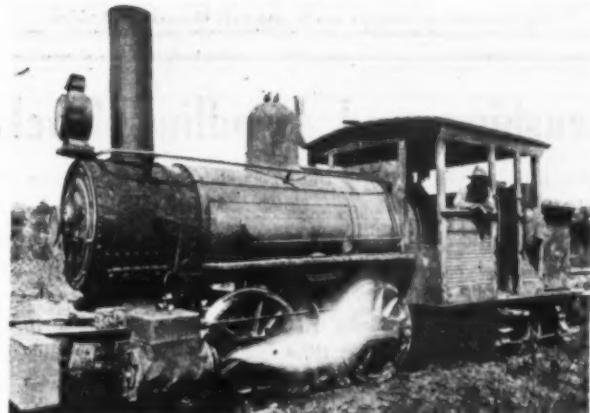
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LOCOMOTIVES IMMEDIATE SHIPMENT STANDARD GAUGE

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60-lb. relaying rail

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Immediate shipment.

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12 lbs. to 60 lbs. per yard

Concrete Bars, Rounds, Squares, and Twisted Squares
Light Steel Angles

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One Clyde Log Loader, for prompt delivery.

5 miles of 35-lb. Rail, 1 mile 56-lb. Rail, 2 miles 45-lb. Rail.

250 tons No. 16 and 20-lb. Rail; located point of West
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REVOLVING SHOVEL

Model 28 Marion on traction wheels, excellent condition, new in spring of 1917.

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1—60-ton American 6-wheel Switcher; driving wheels 44" diameter; carries 150 lbs.
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1—60-ton Type 4-6-0 Rhode Island Switcher; Southern delivery; big bargain; car-
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1—"American" Railroad Ditcher. "Twenty Machines in One." Locomotive Crane
work, shipbuilding, log loading, steam-shovel work, etc.
1—Browning 15-ton 4-wheel 45-ft. boom, bucket operating drums.

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2—1½-yd. Single Line Clamshell Buckets.
1—¾-yd. capacity Orange Peel Bucket.
1—1½-yd. Clamshell Bucket.

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1—Flory 10x12 D. C. Double Tandem Drum Engine; drums 40" dia. x 40" face;
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1—8x10 Flory, double drum, double cylinder; drums side by side and keyed to
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Lambert, 10½x12 double cylinder, single drum, 33-in. dia., 24-in. face; drum
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in.; length over all 18 ft.; 125-lb. pressure.
1—30 H. P. Locomotive Type Portable Boiler and Engine, mounted on iron wheels,
with engine mounted on top of boiler.

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1—60 H. P. Puget Sound Heavy-Duty Double-Cylinder Double-Drum Hoist with
60-in. diam. butt-strapped boilers. Good log loader or heavy derrick engine.
1—7x10 American Double-Cylinder Double-Drum, with boiler.
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2—7x10 Lidgerwood Double Cylinder, double drum, skeleton.
1—9x10 Lidgerwood, double cylinder, double drum with special boiler, all steel
gears, engine built for heavy duty.

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1—Sullivan Straight Line, 2-stage, Class W B-2, capacity 1100 ft., 100 lbs. pressure,
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1—Standard 10 cu. ft., gasoline driven, mounted on trucks, complete, with loading
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1—No. 4 Smith with steam engine on skids.
1—Lot Concrete Spouting, size 14½ in. wide, 9½ in. deep; hopper connections.

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12—Flat Cars, 50,000-lb. capacity, M. C. B., journals 4x7.
4—1-yd. capacity "V"-shaped Steel Two-Way Dump, 30-in. gauge.

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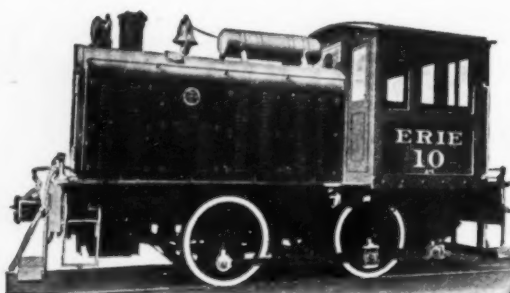
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are suitable for contractors' service, and for light switching in and about lumber mills, quarries, brick yards, clay pits, plantations, etc. They are self-contained, clean, simple to operate, and consume no fuel while standing idle.

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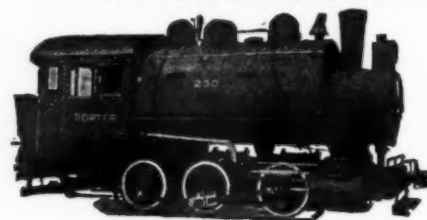
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Steam Locomotives—3 to 100 tons—Narrow and Wide Gauges.

Other Specialties—Fireless Stored Steam Locomotives
Two-Stage Compact Economy Compressed Air Locomotives



Six-wheel, connected with Saddle-tank

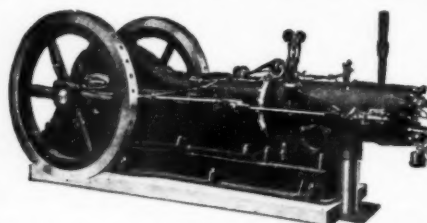
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Chicago Pneumatic Fuel Oil Driven Simplate Valve Air Compressor will operate on any mineral oil of 28° Beaume scale or lighter, containing not over one per cent. sulphur, including Star Oil Diesel, Calol, Stove Oil, Solar Oil, Gas Oil, Kerosene and distillates between Kerosene and Lubricating

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Will Do Your Work Right

is the reason you should use it. We have a variety of grades—they will suit your particular needs, no matter in what manner they are connected with blasting.

Many users have individual blasting problems to solve. To such we offer our consultation services, and we will also make an exhaustive study of your requirements gratis. Then our recommendation of proper grades is at your disposal—whether you take advantage of it or not.

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INCORPORATED

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for Rotators**



THE SENECA SHAFT at Mohawk, Michigan, near Calumet, claims a new record for fast sinking. During May, June, July, August and September 394 feet of four-compartment shaft were sunk. The shaft is 11 ft. 4 in. x 21 ft. 4 in. in size.

The record progress by months was as follows:

May, 208 ft. (27 working days).
June, 202 ft. (25 working days).
July, 105 ft. (26 working days).
August, 205 ft. (27 working days).
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Sullivan Air Tube Rotators

performed practically all the drilling. Ten drills were used, putting in 45 holes, averaging eight feet deep per round, in from 3 to 5 hours' drilling time. Three shifts were worked per day.

For rapid sinking, choose Rotators

Bulletin 1270-F

SULLIVAN MACHINERY CO.

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AIR COMPRESSORS**

When you plan the purchase of an air compressor, you will be influenced greatly by the reports of those who have had experience with pneumatic machinery. So widely are Ingersoll-Rand machines installed and so confident are we of their satisfactory service that our earnest desire is that you inquire of your neighbors who operate I-R units.

You can have an Ingersoll-Rand compressor of any capacity and a type to meet your service conditions.

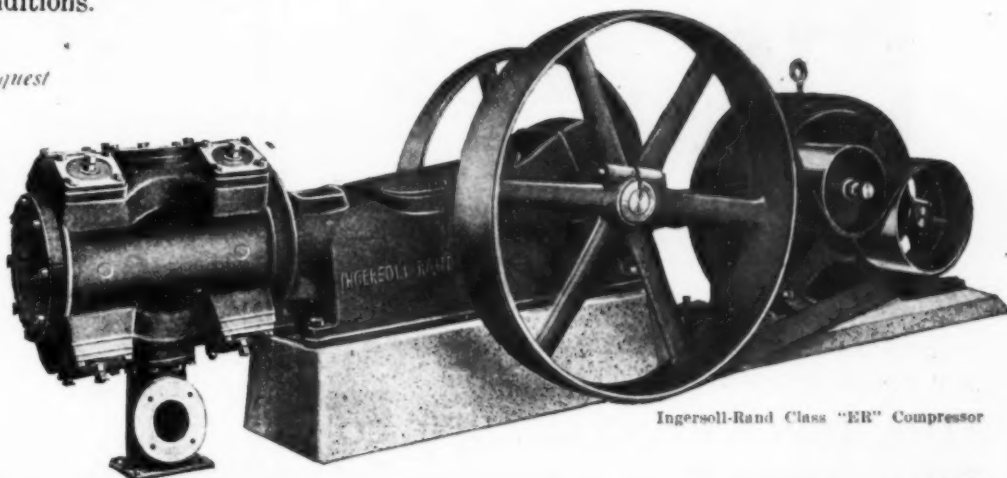
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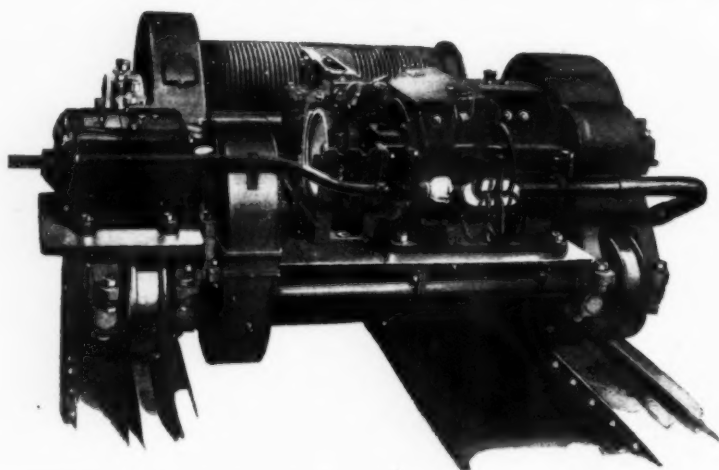


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A FEW FEATURES:

All Steel Gears
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**Performance of the
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Is not limited to one single class of operations. Clam-shell or orange-peel work, as well as hook, skip magnet, pile-driving, etc., can all be successfully accomplished, getting maximum of efficiency in every instance.

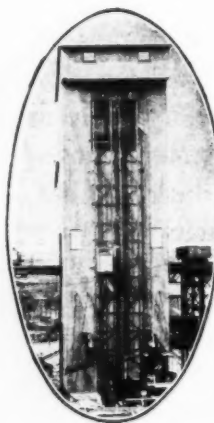


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Built in one size, but choice of three kinds of power and three kinds of mounting.

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 BALANCED SKIP HOIST**



The oval shows the two-ton skip at the Mahoning & Shenango Railway & Light Co. plant at Youngstown, Ohio. Installed in 1907, this rig has been handling the coal and ashes for this big power-house without a hitch. A very satisfactory installation — capacity in excess of 100 tons per hour. The high lift 120 feet has no terrors for a balanced skip.

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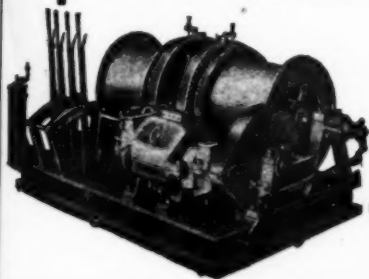
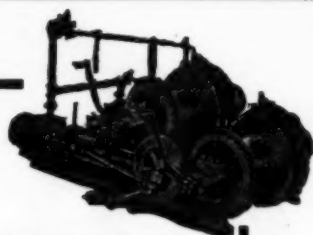
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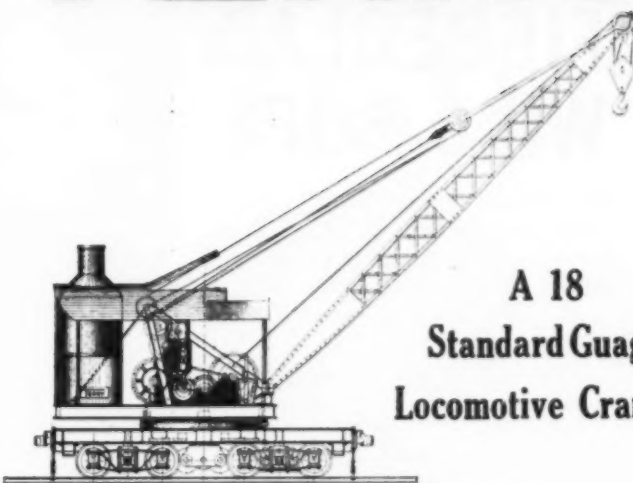
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A 18
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Locomotive Crane

This Crane made in capacities up to 75 tons;
for Bucket, Magnet, or General Work.

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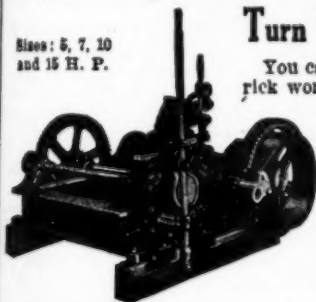
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Turn Waste Minutes Into Money

You can save time, labor and fuel on your der-
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DAKE Swinging Gears

One lever starts, stops and reverses
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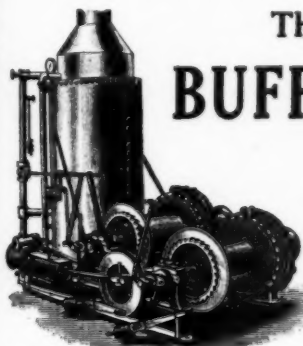
The boom is always under perfect
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Swinging the boom without the use of the main hoisting engine saves fuel.

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successful future.

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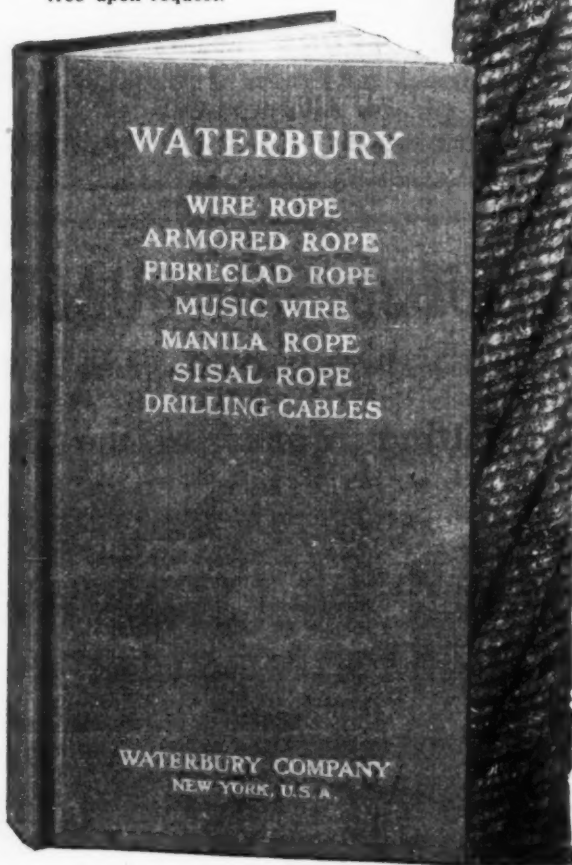
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B. & B. Wire Rope

No matter where it's used, nor for what purpose—B. & B. Wire Rope always "does its bit" a shade more efficiently than is expected or demanded.

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The Flory Hoist saves money on Dragline Scraper Work.

The Flory Hoist

Two Speed Drag Line Hoist

Speed can be changed without stopping load.

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Flory merit recognized by

As to Friction—As to State

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12% Less Push

"I have used shovels, studied them, and sold them in every kind of mine, quarry, mill or yard in this continent and I honestly believe this (Mikkola Patent) is the best all around shovel of all the types we make."

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Note how the point lies flat on the floor. The blade cuts under the material like a thin knife. The load slides down grade into the bowl.

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To get the point of the shovel on the floor, the whole blade must be tipped up. It is like pushing a blunt wedge under the material. The load moves up hill into the bowl.



By actual test it requires 12% less push to load this Conneaut Special Shovel (Mikkola Patent) than it does the ordinary shovel.

Your laborers will do more work *without knowing* it because the shovel takes its load so easily.

This you can prove by practical test right in your own shoveling gangs.

Try a dozen Conneaut Special Shovels for thirty days. If they do not back our claims and if they are not worth all you pay for them, send us a check for what you consider them worth and we will receipt you in full.

Your Friends,

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CONNEAUT, O.**

CONNEAUT SHOVELS

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Type "C" Owen Buckets are designed for rehandling crushed stone, sand, gravel and other loose gritty materials. Complete protection and lubrication keeps the bearings clean at all times, insuring long service with less repairs. All excess bulk eliminated, giving minimum weight consistent with strength.

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On the Top of the Heap

THE work done per dollar invested in Hayward Buckets has earned for them the highest place in the estimation of those who know buckets.

Stronger construction, bigger loads and speedier operation have helped and held Hayward Buckets to their present standing. Repairs have been few and far between, and when necessary have been accomplished with minimum delay right on the job because of the interchangeability of the highly standardized parts of Hayward Buckets.

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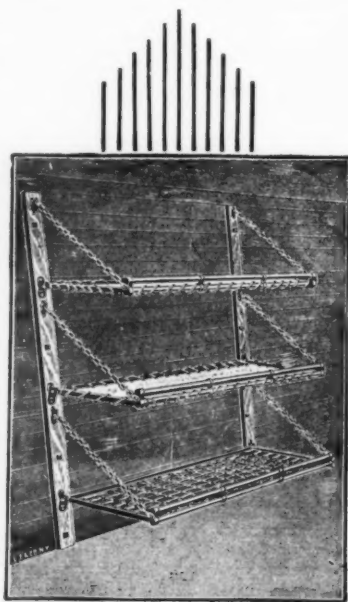
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Contented workmen are a big asset. Give them a good night's rest on a comfortable bunk, and they will wake up in the morning ready to pitch in for a good hard day's work.

ROMELINK BUNKS

are strong and substantial. They are built of the best grade Steel and Iron; are absolutely sanitary; won't burn; cheaper in the long run than wooden bunks, take up little room and can be carried from job to job.



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Dumps Cleanly — Quickly — at Long Distances

Thew Shipper Shaft Crowder Shovels can hold the loaded dipper firmly at extreme heights and distances.

This insures a quick, clean dump.

And it's only one of the many characteristic Thew working features that cuts yardage costs by increasing output.

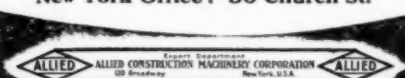
Let us tell you about all the others.

"Thews Are Everywhere"

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ERIE Shovel owned by Gund - Graham Company, Freeport, Ill.



"75 yards an hour, in stiff frozen crust!"

"We ran a test with the weather below zero. Dug stiff clay with 18 inches of frozen crust. Height of bank was 6 feet.

"We were able to average 75 cubic yards per working hour—a remarkable record. The frost was the heaviest that I have ever seen a 20-ton shovel break up without blasting. I never before realized that the ERIE has so much power."

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The HEAVY DUTY MIXER that is fortified against breakdowns and delays. The Extra Yardage Mixer of high-speed, clean-charging loading skip, liberal drum dimensions and fast discharge. Uniform concrete to the last shovelful of every batch.

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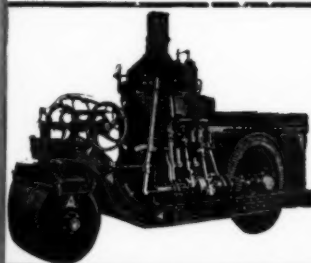
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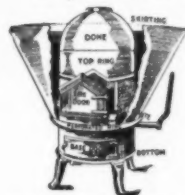
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This dryer has a low first cost, is easily and cheaply operated and guaranteed dry sand.

The low cost makes it valuable for companies needing dry sand on two or more jobs at the same time, thereby eliminating the handling cost of one point only.

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Furnished in tank cars or wooden barrels.

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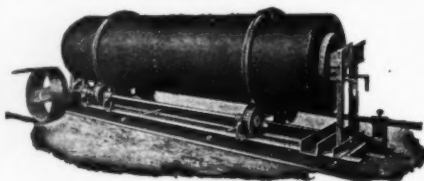
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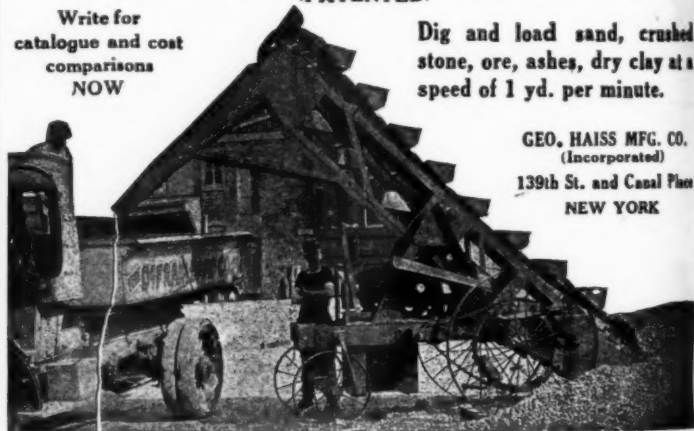
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1/2c PER YARD FOR POWER 1 CU. YARD PER MINUTE HAISS DIGGING WAGON LOADER (PATENTED)

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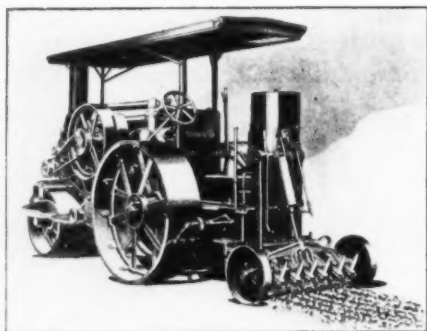
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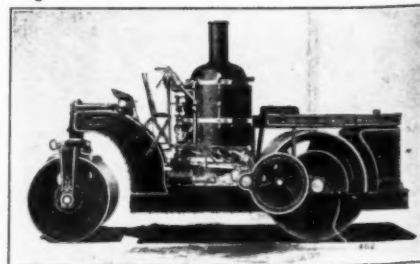
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WE BUILD

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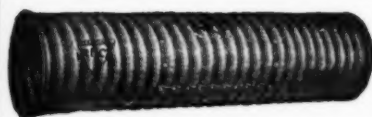
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Made of
Galvanized Anti-Corrosive NO-CO-RO METAL

The actual service given by these pure iron Culverts has established them as permanent.
Under highways and railroads and in drainage projects;
Under fills of from one to thirty feet;
Under earth and climatic conditions of all kinds;
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**Proven by
Eleven Years
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Many "ACMES" have now been in service for nine, ten or eleven years, and we are assured by the users that they are still in perfect condition.
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require neither skilled labor nor heavy tackle for their installation — ordinary labor, pick and shovel are all you need.

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You'll find "Armco" Iron Culverts in all parts of the country, as serviceable today as when they were first put into the ground. Indisputable evidence of their unequalled rust-resisting and en-

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Men, Munitions, Ships,
and back of them all

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Never resting day or
night, that the flag of
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For Dredging Purposes

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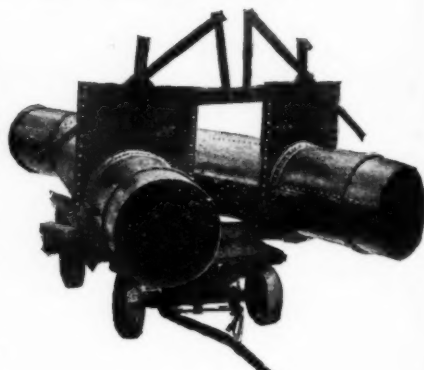
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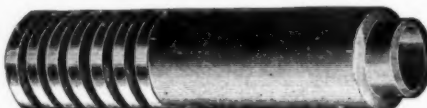
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For Water, Chemicals, Heavy Fluids and Mine Waters

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**Durable, Strong
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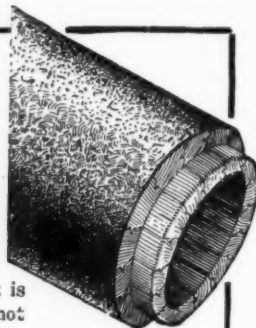
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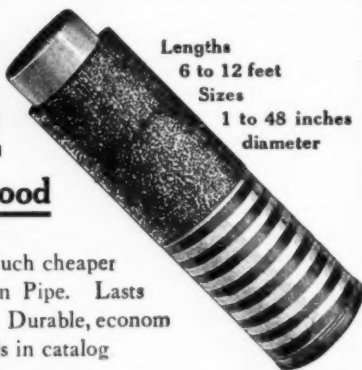
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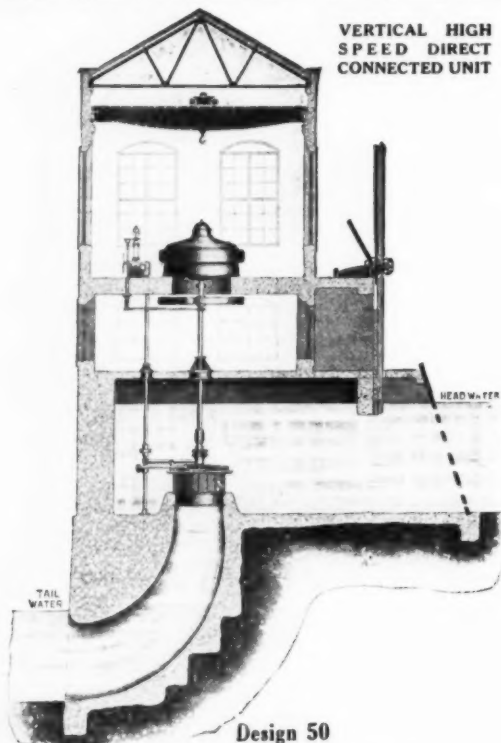
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VERTICAL AND HORIZONTAL DESIGNS

High Speed, High Horse Power, High Efficiency



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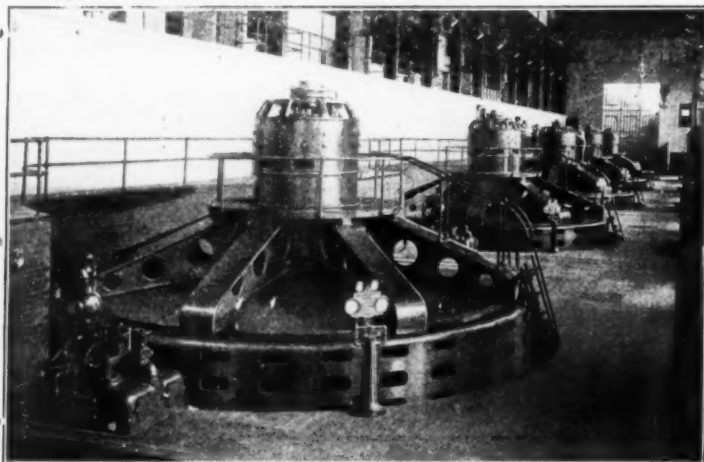
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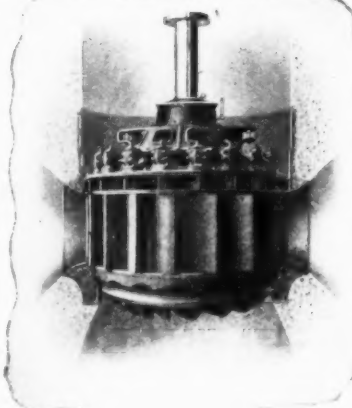
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Many undeveloped
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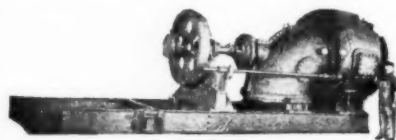
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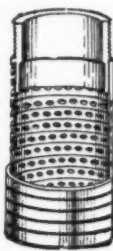
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We make a specialty of designing turbines to suit peculiar conditions. We build turbines of medium power and speed and of high power and speed, both of the vertical and horizontal type.



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Material will not harden in the pump
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Pump may always be started without
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Large steam space surrounds
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Will withstand high temperature.

Simple in construction.

No valves, lobes, springs or compli-
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Successfully operates at All speeds.

For efficiency of operation, durability
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handling heavy viscous or bitumi-
nous materials of varying tempera-
tures and consistencies.

Cuts show two forms of engine-driven
types.

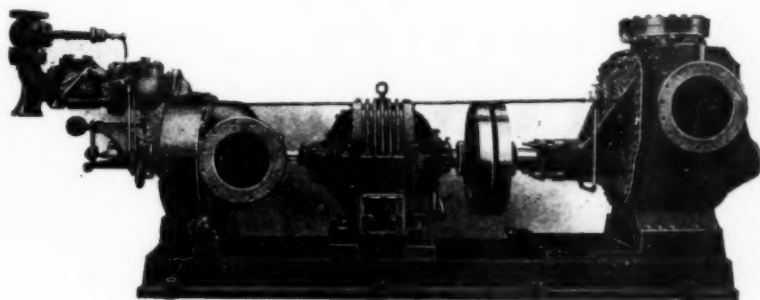
No Springs

No Valves

No Air Dome



Cut No. 196.



Cut No. 191.

Cut No. 196 shows pump direct connected to a
vertical steam engine with flexible shaft coup-
ling.

Cut No. 191 shows assembly for connection to a
steam turbine through turbo speed reducer.

These units are adapted for handling any and all grades of
material of any consistency and in any desired volume.

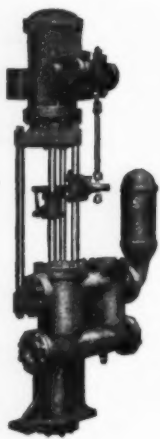
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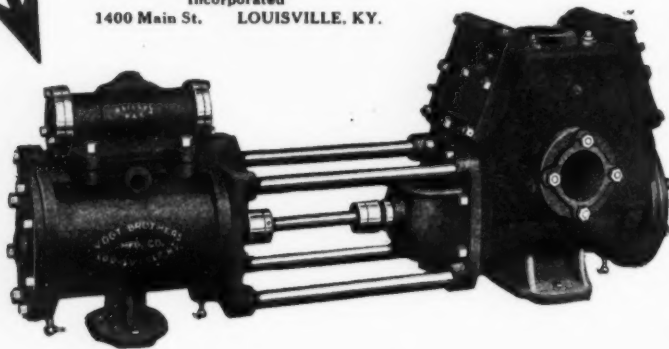
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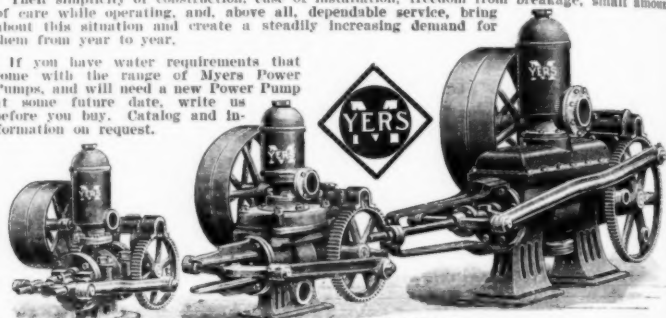
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SMALL AND MEDIUM CAPACITY PUMPS FOR EVERY DAY PUMPING SERVICE.

We find this to be true, for Myers Power Pumps and Working Heads are used under all kinds of conditions and installed for every imaginable pumping job, from deep-well service up to pumping water ponds and lakes, ditches and streams, or other sources.

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For Steam, Power, Direct Connection of Electric Motor, or any other convenient form of drive

SINGLE AND DOUBLE STROKE

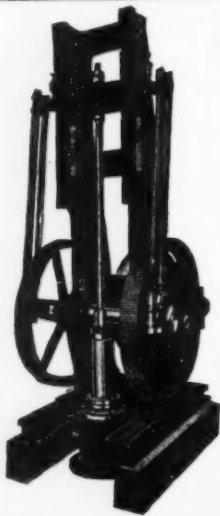
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Single-Stroke
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Brass Tube
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CAMERON CLASS "DV" PUMP.
WITH CASING OPEN, SHOWING
ACCESSIBILITY.

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The smallest detail in a pump becomes big and troublesome if it is skimmed over in manufacture. The great point about

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Get the Whole Story—Bulletin No. 7150.

A. S. Cameron Steam Pump Works

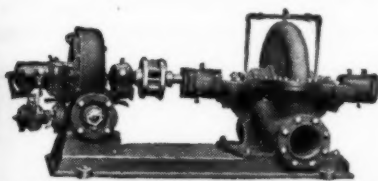
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31-V

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DAYTON-DICK TYPE CS Double Suction Centrifugal
Pump—Described in Detail in Bulletin 200

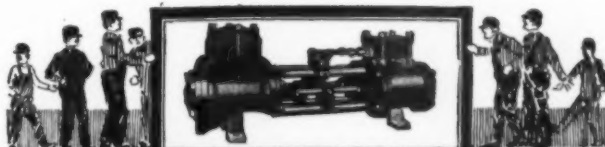
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AT LAST!!
THE PUMP
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TRENARY

Centrifugal Sand and Dredge Pump

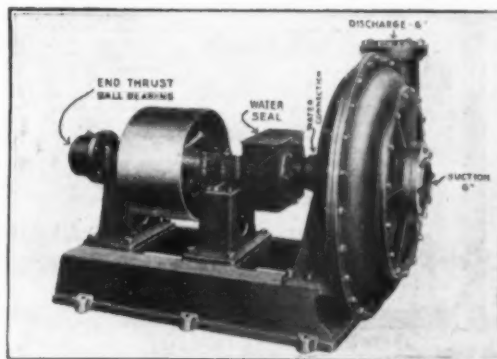
It Pumps MORE—It Pumps BETTER—It Pumps LONGER!

The "TRENARY" pumps more, because its uniformity of operation insures perfect working qualities, due to the mechanical improvements, exclusive on the "TRENARY." Namely: Ball Bearing End Thrust. Water Seal—enclosing stuffing box gland. Split Oil Ring Bearings.

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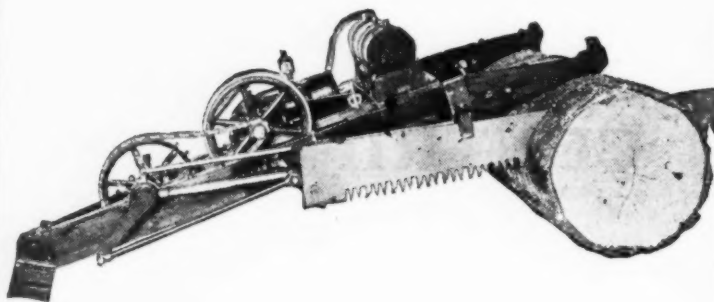
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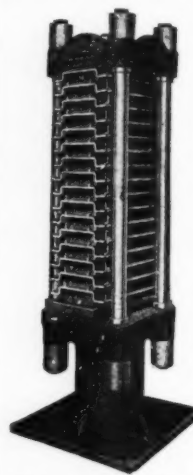


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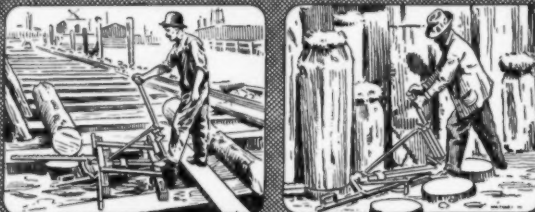
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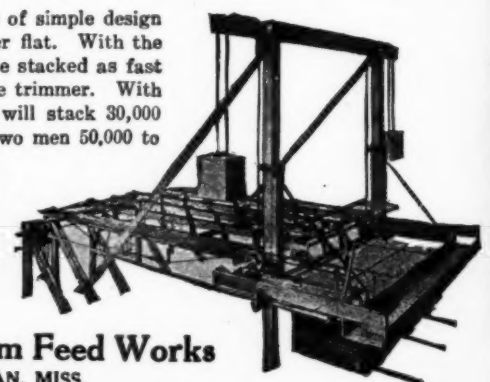
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For Cottonseed, Peanut and
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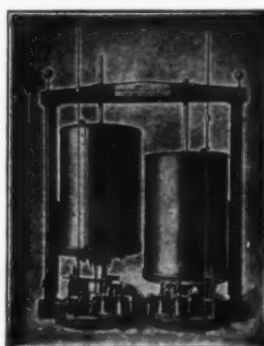
Georgia's best quality of soil. Farms located close to Georgia & Florida Railway, close to public highway and in one of Georgia's most healthful belts.

These farms are excellent investments. Buy one and make a war farm and swing Old Glory on your front gate. Only 100 farms are offered in Unit No. 1. Farm complete, with improvements stated above, at \$50 per acre. Payments, \$1000 down; no further payments until after second crop. Pay it out on a basis of \$5 per acre per year until paid for. This means twelve years' time in which to make a farm pay for itself. This is guaranteed to be in the class with the best lands in the South. Don't miss an opportunity like this. Write for booklet SF.

D. F. KIRKLAND, General Manager

Georgia and Florida Railway

Augusta, Georgia



Oil Mill Machinery

for Cottonseed, Linseed, Mustard Seed, Rape Seed, Soya Bean, Castor Bean, Sesame and Copra.

Hydraulic Presses

Hydraulic Pumps

Hydraulic Accumulators

Chilled Crushing Rolls

Disc Hullers

Automatic Cake Trimmers

Cake Breakers

Latest and Most Approved Types

Cotton Seed Cleaning, Hulling and Separating Machines

CAKE FORMERS—Automatic Steam, Hand Steam, Hydraulic and and Power.

COOKERS—Horizontal, Upright and Automatic Stack.

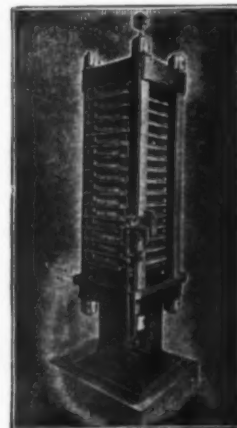
ATTRITION MILLS—with Patented Wave Line Plate in which a grove cannot be worn—for hot or cold cake.

ACCUMULATOR SYSTEM — The only perfect one devised.

Buckeye Iron & Brass Works

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ATLANTA, GEORGIA

Building A Complete Cycle of Chemical Industries on the Clinchfield Railway

ADVANTAGES:

1—LOCATION: The Carolina, Clinchfield and Ohio Railway traverses the territory known as the Southern Appalachian Region, between Elkhorn City, Kentucky, and Spartanburg, South Carolina. A study of the geographical and geological maps will disclose the important and logical situation of the Clinchfield Railway with respect to raw materials as well as distribution facilities for manufactured products.

2—RAW MATERIALS: It is doubtful if any section of the country is so bountifully blessed with so great a variety of raw products of commercial value. Its great coal fields, and deposits of Iron Ore, Kaolin, Feldspar, Mica, Zinc, Ochre, Asbestos, Chrome, Limestone, Dolomite, Quartz, and other minerals of lesser importance, make this region truly a MINERAL PARADISE. All of these are supplemented by a vast forest, the by-products of which offer a supply of raw materials for chemical plants, such as pulp mills, extract and wood distillation plants.

3—BUILDING MATERIALS: New industries can be assured of quick and low-cost construction because the necessary building materials are manufactured on the Clinchfield Railway, such as high-grade Portland Cement, brick, lime, tile, lumber, etc.

4—LABOR: The supply of labor is of the sturdy Anglo-Saxon type, and, as a whole, is very contented on account of the fine climate and favorable living conditions. It is skillful and intelligent, becoming readily adapted to new conditions, and intricate processes requiring the greatest care. This has been demonstrated by the experience of the large manufacturing plants already established along the Clinchfield Railway.

5—CHEAP POWER: The power resources of the Clinchfield are hardly to be exceeded anywhere in the country. The coal fields being developed on the north end of the road guarantee an ample and continuous supply of coal, coke and gas. In addition to these coal resources the road possesses ample power facilities in the several large rivers that drain this territory.

The cheap steam and hydro-electric power possibilities coupled with the raw materials at hand, make this region unusually attractive to the electro-chemical industries.

6—DISTRIBUTION FACILITIES: The physical connections of the Clinchfield Railway with important trunk lines on the north and south, and east and west, give the Clinchfield Territory superior features both from the standpoint of assembling raw materials and the distribution of finished products. This territory is in efficient touch with all portions of the country.

For Complete Information Address

Carolina, Clinchfield and Ohio Railway

JOHNSON CITY, TENNESSEE

Florida Invites You

"For the first time in life I feel like I am out of prison and really living"

This is a statement made last year by a man who the year before gave up his job as foreman of a big Western machine shop and located on the East Coast of Florida and went into raising oranges and early vegetables.

His enthusiasm over the freedom of the life and the joy of living as compared with his long experience as a machinist and afterwards as foreman is only in keeping with the joy that would fill the lives of tens of thousands of others if they should follow his example and leave the confining indoor life of the shop and get the broader, sweeter life of outdoors in a climate such as that afforded by Florida, with opportunities for making a comfortable living such as are found in this favored region.

When asked as to how he enjoyed the climate, this ex-machine shop foreman said:

"My home was in Ohio. I have lived here since last Spring. Last Summer was the most comfortable Summer I ever spent in my life. My home is near the Halifax River, and throughout the day and night we had a constant breeze, and when I got through the day's work, tired and dirty, a change of clothes and a seat on the porch with a river breeze ever blowing made me feel that I was out of prison and really living."

Down the East Coast of Florida, stretching through a region 400 miles in length, are to be found thousands of people who, for the reasons given by this man, or for health or pleasure, or the making of a living, have found the peace and contentment and prosperity which he has found here.

In this favored region, where the summer climate is by many thought to be the very best of the year; where winter sunshine is the rule and not the exception; where outdoor life under the very best of conditions is attractive every day of the year; where a succession of crops can be grown from January to December and something for the market always available, there are attractions and advantages and

opportunities such as can be found in few other places in all the wide world.

These statements, moreover, are tremendously emphasized by the fact that from early fall until late spring tens of thousands of the leaders in American industry and finance seek this region for its climatic advantages and its many other attractions.

These men of mighty affairs in industry and finance are abundantly able to seek out the most attractive regions in the world.

The fact that year after year they come to the East Coast of Florida, after having tried nearly all other lands, is a constant proof, and the highest that could be given, that here they find conditions not matched elsewhere in this or any other land.

Call the roll of the great leaders in industry and the bankers and the railroad people of the country every winter, and you will find that a very large proportion of them will respond from Florida, because they have sought in Florida to find rest and recreation and freedom from the bitter blasts of blizzards of the North and West, which mean sickness and death to so many who cannot get away.

Thus the mechanic or the shop foreman, seeking the outdoor life and the chance to make a living, and

The multi-millionaire, seeking the best to be found in climatic advantages, alike select the East Coast of Florida.

If you have not studied this situation from the standpoint of a prospective settler or that of the tourist, if you have not thought of what it means in health and strength and lengthened life to spend a few weeks or the rest of your life in such a favored region, write for information about the various towns and opportunities along the East Coast of Florida.

MODEL LAND COMPANY OF THE FLAGLER SYSTEM

JAMES E. INGRAHAM, President

ST. AUGUSTINE, FLA.

ABRASIVE MATERIALS.

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Black & Co., Baltimore, Md.

Cooley & Marvin Co., Boston, Mass.

ACCUMULATOR. (Hydraulic.)

The French Oil Mch. Co., Piqua, Ohio.

ACID EGGS.

Valley Iron Works, Williamsport, Pa.

AGENTS. (Manufacturers.)

Agency Service Corporation, Washington, D. C.

Hammond-Hyrd Co., The, Birmingham, Ala.

Maple, Moore & Kirkwood, Washington, D. C.

AGRICULTURISTS. (Consulting.)

Storse, Stanley F., New Orleans, La.

AIR CONDITIONING APPARATUS.

Carrier Engineering Corp., New York, N. Y.

AIR COMPRESSORS. (Stationary and Portable.)

Chicago Pneumatic Tool Co., Chicago, Ill.

De La Vergne Machine Co., New York, N. Y.

General Electric Co., Schenectady, N. Y.

Ingersoll-Rand Co., New York, N. Y.

Novo Engine Co., Lansing, Mich.

Norwalk Iron Works Co., The, So. Norwalk, Conn.

Sullivan Machinery Co., Chicago, Ill.

Westinghouse Traction Brake Co., Wilmerding, Pa.

Worthington Pump & Mch. Corp., New York, N. Y.

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Aluminum Company of America, Pittsburgh, Pa.

Stimpson Co., Edwin B., Brooklyn, N. Y.

AMMONIA VALVES AND FITTINGS.

Frick Co., Waukesha, Pa.

Triumph Ice Machine Co., The, Cincinnati, Ohio.

ANTI-FRICTION METALS.

Balle-Lebby Co., Charleston, S. C.

Dodge Sales & Engineering Co., Mishawaka, Ind.

APPRAISERS.

American Appraisal Co., The, Milwaukee, Wis.

ARCHITECTS.

Milburn, Holster & Co., Washington, D. C.

Sirlin, J. E., Greenville, S. C.

ARCHITECTS. (Landscape.)

Runap, Geo., Washington, D. C.

Draper, E. S., Charlotte, N. C.

ARCHITECTS' SUPPLIES.

Starrett Co., L. S., Athol, Mass.

Weber & Co., F., Philadelphia, Pa.

ARCHITECTURAL IRON WORK.

Bulles Iron & Wire Wks., J. E., Detroit, Mich.

Chattanooga Rfg. & Fdry. Co., Chattanooga, Tenn.

Chenapeake Iron Works, Baltimore, Md.

Dietrich Brothers, Baltimore, Md.

Sneed Architectural Iron Wks., Louisville, Ky.

ARMATURE WINDING.

Charlotte Electric Repair Co., Charlotte, N. C.

ART GLASS.

Rhinowarner & Co., Memphis, Tenn.

ASBESTOS PRODUCTS.

Acme Asbestos Covering & Sup. Co., Chicago, Ill.

Dunham Asbestos and Rubber Corporation, New York, N. Y.

Aspromet Company, Pittsburgh, Pa.

Johns-Manville Co., H. W., New York, N. Y.

ASBESTOS ROOFING AND SIDING.

Aspromet Company, Pittsburgh, Pa.

Dominion Asbestos and Rubber Corporation, New York, N. Y.

ASH CONVEYORS.

Vacuum Ash & Soot Conveyor Co., New York.

ASPHALT.

Gulf Refining Co., Pittsburgh, Pa.

Standard Oil Co. of La., Baton Rouge, La.

Texas Co., The, New York, N. Y.

ASPHALT FILLER.

American Ballast Co., Knoxville, Tenn.

ASPHALT HEATERS.

Kinney Mfg. Co., Boston, Mass.

ASPHALT MIXERS.

Erie Machine Shop, Erie, Pa.

ASPHALT PAVING CONTRACTORS.

Southern Purchasing Co., Chattanooga, Tenn.

ASPHALT PAVING PLANTS.

Cummer & Son Co., F. D., The, Cleveland, Ohio.

Ruggles-Coles Engineering Co., York, Pa.

Warner Bros. Co., Boston, Mass.

ASPHALT PAVING REPAIR PLANTS.

Ruggles-Coles Engineering Co., York, Pa.

AUCTIONEERS.

Conant & Co., J. E., Lowell, Mass.

Freeman & Co., Samuel T., Philadelphia, Pa.

AUDITORS.

Baltimore Audit Co., Baltimore, Md.

Black & Co., Baltimore, Md.

Cooley & Marvin Co., Boston, Mass.

AUTOMOBILE ACCESSORIES.

Balle-Lebby Co., Charleston, S. C.

Booth Felt Co., Inc., Brooklyn, N. Y.

AUTOMOBILE TRUCKS.

Bethlehem Motor Corp., Allentown, Pa.

Garford Motor Truck Co., Lima, Ohio.

General Motors Truck Co., Pontiac, Mich.

International Motor Co., New York, N. Y.

Republic Motor Truck Co., Inc., Alma, Mich.

Sterling Motor Truck Co., Milwaukee, Wis.

U. S. Motor Truck Co., The, Cincinnati, Ohio.

AXLES. (Car and Locomotive.)

American Steel Export Co., New York, N. Y.

Camden Forge Co., Camden, N. J.

BACKFILLERS.

Amer. Cement Mch. Co., Inc., Keokuk, Iowa.

TRENCH.

Waterloo Cement Mch. Corp., Waterloo, Iowa.

BAGS. (Second-hand.)

Roanoke Scrap Iron & Metal Co., Roanoke, Va.

BALLAST. (Railroad.)

American Ballast Co., Knoxville, Tenn.

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Delaware Registrat'n Trust Co., Wilmington, Del.

Edwards, Geo. B., New York, N. Y.

Electric Bond & Share Co., New York, N. Y.

Hornblower & Weeks, New York, N. Y.

Mercantile Trust & Deposit Co., Baltimore, Md.

Nureen & Co., John, Chicago, Ill.

Powell, Garard & Co., Chicago, Ill.

Spitzer & Co., Sidney, Toledo, Ohio.

Stanton & Co., W. L., Toledo, Ohio.

BANKS.

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First National Bank, Birmingham, Ala.

First Nat'l Bank of Boston, The, Boston, Mass.

First National Bank, Richmond, Va.

Maryland Trust Co., Baltimore, Md.

Merchants-Mechanics Nat'l Bk., Balt., Md.

National Exchange Bk. of Balt., Baltimore, Md.

Union Trust Co., Chicago, Ill.

BARGES. (Steel.)

American Bridge Co., New York, N. Y.

BARIUM PRODUCTS. (Binoxide, Chloride, Hydrate, Nitrate, etc.)

Rollin Chemical Co., Inc., Charleston, W. Va.

BARIUM SULPHATE. (Precipitated Blanc Fire.)

Rollin Chemical Co., Inc., Charleston, W. Va.

BAR BENDERS.

ing Machine Co., Milwaukee, Wis.

UTTERS.

chine Co., Milwaukee, Wis.

(Refined and Galvanized.)

New York, N. Y.

City, N. Y.

burgh, Pa.

Savannah, N. Y.

Mo.

BARS.

Ames & Co., W. Jersey City, N. J.

STEEL ROUNDS, FLATS AND SQUARES.

Abern Steel Co., New York, N. Y.

Camden Forge Co., Camden, N. J.

Concrete Steel Co., New York, N. Y.

Gulf States Steel Co., Birmingham, Ala.

Sewell's Steel Co., Williamsport, Pa.

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General Fireproofing Co., Youngstown, Ohio.

Hoffman & Co., E. C., Inc., Baltimore, Md.

Jones & Laughlin Steel Co., Pittsburgh, Pa.

Laclede Steel Co., St. Louis, Mo.

Truscon Steel Co., Youngstown, Ohio.

BAUXITE.

Southern Minerals Corp., Boston, Mass.

BEARINGS.

BRASS AND BRONZE.

Edna Brass Mfg. Co., Cincinnati, Ohio.

GRAPHITE AND BRONZE.

Bound Brook Oil-less Brng. Co., Bound Brook, N. J.

OILERS.

Bound Brook Oil-less Brng. Co., Bound Brook, N. J.

Metaline Co., Long Island City, N. Y.

ROLLER.

Hyatt Roller Bearing Co., New York, N. Y.

BELTING.

LEATHER, CANVAS, RUBBER.

Balle-Lebby Co., Charleston, S. C.

Belting Co., Baltimore, Md.

Bradford Belting Co., Cincinnati, Ohio.

Chenapeake Belting Co., Baltimore, Md.

Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.

Druid Oak Belting Co., Inc., Baltimore, Md.

Gandy Belting Co., Baltimore, Md.

Goodrich Co., E. F., Akron, Ohio.

Goudy Tire & Rubber Co., Akron, Ohio.

Granton & Knight Mfg. Co., Worcester, Mass.

Main Belting Co., Philadelphia, Pa.

Schieren Co., Chas. A., New York, N. Y.

Smith-Courtney Co., Richmond, Va.

CHAIN.

Caldwell & Son Co., H. W., Chicago, Ill.

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Link-Belt Co., Philadelphia, Pa.

Morse Chain Co., Ithaca, N. Y.

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Du Pont de Nemours & Co., E. I., Wilm'ton, Del.

Granton & Knight Mfg. Co., Worcester, Mass.

Schieren Co., Chas. A., New York, N. Y.

BELT CONVEYORS.

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Alvey Manufacturing Co., St. Louis, Mo.

Bartlett & Smith Co., E. C., Cleveland, O.

Jeffrey Mfg. Co., Columbus, Ohio.

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Portable Machinery Co., Inc., Passaic, N. J.

Robins Conveying Belt Co., New York, N. Y.

Webster Mfg. Co., Tiffin, Ohio.

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Gandy Belting Co., Baltimore, Md.

Granton & Knight Mfg. Co., Worcester, Mass.

Schieren Co., Chas. A., New York, N. Y.

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Granton & Knight Mfg. Co., Worcester, Mass.

Schieren Co., Chas. A., New York, N. Y.

BERTHS AND BUNKS. (For Ships and Contrs.)

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Church & Dwight Co., New York, N. Y.

Du Pont de Nemours & Co., E. I., Wilm'ton, Del.

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Atlantic Steel Co., Atlanta, Ga.

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Rollin Chemical Co., Inc., Charleston, W. Va.

BLEACHING MATERIALS.

Wolf & Co., Jacques, Passaic, N. J.

BLOCKS.

CHAIN.

Wright Mfg. Co., Lisbon, Ohio.

PAVING CARBOSOD.

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Buffalo Forge Co., Buffalo, N. Y.

Burgess Fan Co., Kalamazoo, Mich.

Clinton-Pratt Co., The, Cincinnati, Ohio.

Durrion Castings Co., Dayton, Ohio.

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Green Fuel Economizer Co., New York, N. Y.

National Blow Pipe & Mfg. Co., New Orleans, La.

BLOW PIPES.

National Blow Pipe & Mfg. Co., New Orleans, La.

Shreveport Blow Pipe & S. I. Wks., Shreveport, La.

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Babcock & Wilcox Co., New York, N. Y.

Casey-Hedges Co., Chattanooga, Tenn.

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Hartley Boiler Works, Montgomery, Ala.

Houston, Stanwood & Gamble Co., The, Cinn., O.

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Malby Machinery Co., Jacksonville, Fla.

Mecklenburg Iron Works, Charlotte, N. C.

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BOILER GRAPHITE.

Dixon Crucible Co., Joseph, Jersey City, N. J.

BOILER SEAM PROTECTOR.

National Boiler Protector Co., Dayton, Ohio.

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Ames & Co., W. Jersey City, N. J.

Bethlehem Steel Co., South Bethlehem, Pa.

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Midvale Steel & Ordnance Co., Philadelphia, Pa.

Milton Mfg. Co., Milton, Pa.

Progressive Mfg. Co., Torrington, Conn.

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St. Louis Screw Co., St. Louis, Mo.

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Webster & Perks Tool Co., The, Springfield, O.

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Hanchett Bond Co., The, Chicago, Ill.

Hornblower & Weeks, New York, N. Y.

Merchants Trust & Deposit Co., Baltimore, Md.

Nureen & Co., Chicago, Ill.

Powell, Garard & Co., Chicago, Ill.

Spitzer & Co., Sidney, Toledo, Ohio.

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Fidelity & Deposit Co. of Md., Baltimore, Md.

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Hamilton Chemical Works, New York, N. Y.
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Birmingham Iron Works, Williamsport, Pa.
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Castings Co., Dayton, O.
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CONCRETE.
Engineering Co., The, Pittsburgh, Pa.
RADIAL BRICK.
Engineering Co., The, Pittsburgh, Pa.
- CHLORIDE ACCUMULATOR.**
Storage Battery Co., The, Philadelphia, Pa.
- CHLORINE GAS APPARATUS.**
Chemical Co., New York, N. Y.
- CLEANING COMPOUND. (Floors, etc.)**
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- CLOCKS. (Watchman's Portable.)**
Clock Co., Boston, Mass.
- CLOCKS. (Household.)**
Clock Co., New York, N. Y.
- CLUTCHES. (Friction.)**
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Clutch Sales & Engr. Co., Milwaukee, Ind.
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Clutch Mfg. Co., Tiffin, Ohio.
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Consolidated Coal Co., Inc., New York, N. Y.
Consolidated Byrd Co., The, Birmingham, Ala.
Consolidated Coal, Iron & R. B. Co., Birmingham, Ala.
- COAL CUTTERS.**
Mfg. Co., Columbus, Ohio.
- COAL HANDLING MACHINERY.**
Bartlett & Snow Co., The, C. O., Cleveland, O.
Mfg. Co., New York, N. Y.
Mfg. Co., Inc., C. W., West Brighton, N. Y.
Mfg. Co., Columbus, Ohio.
Mfg. Co., Philadelphia, Pa.
Mfg. Co., Inc., Passaic, N. J.
Mfg. Co., New York, N. Y.
Mfg. Co., Tiffin, Ohio.
Mfg. Co., Chicago, Ill.
Mfg. Co., The, Cleveland, O.
- COAL TAR AND BY-PRODUCTS.**
Bartlett & Snow Co., New York, N. Y.
- COAL TAR.**
Hill Steel Co., Youngstown, Ohio.
- COAL TIPPERS.**
American Bridge Co., New York, N. Y.
Mfg. Co., Indianapolis, Ind.
Mfg. Co., Tiffin, Ohio.
- COCKS. (Acid Proof.)**
Castings Co., Dayton, Ohio.
- COIL MAKING. (Armature and Field.)**
Charlotte Elec. Repair Co., Charlotte, N. C.
- COKE.**
Alabama Co., The, Birmingham, Ala.
Hill Steel Co., Youngstown, Ohio.
Consolidated Coal, Iron & R. B. Co., Birmingham, Ala.
- COKE OVENS. (By-Products.)**
Eggers Co., H., Pittsburgh, Pa.
Byrthe Co., S. R., Pittsburgh, Pa.
- COKE OVEN MACHINERY.**
Fellman-Leaver-Morgan Co., The, Cleveland, O.
- COLD STORAGE DOORS.**
Brecht Co., The, St. Louis, Mo.
- COLLARS. (Shaft.)**
Fdy. & Mach. Co., Mannheim, Pa.
- COLUMNS. (Cast Iron.)**
Cast Iron Pipe & Fdy. Co., Burlington, N. J.
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Castings Co., Dayton, O.
- CONCRETE CONSTRUCTION. (Reinforced.)**
Agromet Company, Pittsburgh, Pa.
Corrugated Bar Co., Buffalo, N. Y.
Steel Fireproofing Co., Youngstown, Ohio.
Steel Engineering Co., The, Pittsburgh, Pa.
- CONCRETE CURB PROTECTOR. (Steel.)**
Tufcon Steel Co., Youngstown, Ohio.
- CONCRETE REINFORCING BARS.**
American Steel & Wire Co., Chicago, Ill.
Consolidated Expanded Metal Co., Braddock, Pa.
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Orean-Morris Co., Philadelphia, Pa.
Van Bros. Steam Pump Wks., Indianapolis, Ind.
Kearney Elec. & Mfg. Co., E. Pittsburgh, Pa.
Worthington Pump & Mch. Corp., New York, N. Y.
- CONDENSERS. (Acid Proof.)**
Castings Co., Dayton, Ohio.
- CONDUITS. (Electrical, Interior, Steel.)**
National Metal Molding Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, O.
- CONDUIT FITTINGS.**
National Metal Molding Co., Pittsburgh, Pa.
- CONTRACTORS.**
BUILDING.
Austin Co., The, Cleveland, Ohio.
Concrete Steel Bridge Co., The, Clarkburg, W. Va.
Foundation Co., The, New York, N. Y.
McKinney Const. Co., John T., Lynchburg, Va.
Stone & Webster, Boston, Mass.
Westhouse Church Kerr & Co., New York, N. Y.
White Corp., J. G., New York, N. Y.
- DRAINAGE.**
Atlantic, Gulf & Pacific Co., New York, N. Y.
- DREDGING.**
Atlantic, Gulf & Pacific Co., New York, N. Y.
- GENERAL.**
Foundation Co., The, New York, N. Y.
Lane & Co., Inc., C. W., Atlanta, Ga.
Stone & Webster, Boston, Mass.
White Corp., J. G., New York, N. Y.
- GRADING.**
Island, T. M., Baltimore, Md.
- POWER PLANTS.**
Island, T. M., Baltimore, Md.
- HAVING.**
Allen Scales Engr. Co., Inc., Nashville, Tenn.
- RAILROAD.**
Atlantic Equipment Co., New York, N. Y.
Irland, T. M., Baltimore, Md.
Johnson Co., Inc., Wm. T., Cincinnati, Ohio.
Richmond Mill Supply Co., Richmond, Va.
- REINFORCED CONCRETE.**
Concrete Steel Bridge Co., The, Clarkburg, W. Va.
Foundation Co., The, New York, N. Y.
Lane & Co., Inc., C. W., Atlanta, Ga.
- ROAD AND STREET PAVING.**
Lane & Co., Inc., C. W., Atlanta, Ga.
McCrory Co., J. B., Atlanta, Ga.
McKinney Const. Co., John T., Lynchburg, Va.
Southern Purchasing Co., Chattanooga, Tenn.
- SEWER AND WATERWORKS.**
Lane & Co., Inc., C. W., Atlanta, Ga.
McCrory Co., J. B., Atlanta, Ga.
- CONTRACTORS' MCHY. AND SUPPLIES.**
Amer. Metallic Packing Co., Inc., Lexington, Ky.
Amer. Hvy. Equipment Co., Pittsburgh, Pa.
Atlantic Equipment Co., New York, N. Y.
Austin Mfg. Co., Chicago, Ill.
Bay City Dredge Co., Bay City, Mich.
Bean & Son Co., Jacksonville, Fla.
Beckwith Machinery Co., The, Pittsburgh, Pa.
Bruch, H. M., Syracuse, N. Y.
Buffalo Hoist & Derrick Co., New York, N. Y.
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Watlington Pump & Mch. Corp., New York, N. Y.

STEAM.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Ames Iron Works, Oswego, N. Y.
Ball Engine Co., Erie, Pa.
Buffalo Forge Co., Buffalo, N. Y.
Clark Bros. Co., Olean, N. Y.
Cooper Co., C. & G., Mt. Vernon, Ohio.
Erie Pump & Engine Co., Medina, N. Y.
Harris Bros. Co., Chicago, Ill.
Hardie-Tynes Mfg. Co., Birmingham, Ala.
Houston, Stanwood & Gamble Co., Cincinnati, O.
Lefel & Co., James, Springfield, Ohio.
Lombard Iron Works, Augusta, Ga.
Meeklenburg Iron Works, Charlotte, N. C.
Morrison Machine Works, Baldwinville, N. Y.
Murray Iron Works Co., Burlington, Iowa.
National Transit Pump & Mch. Co., Oil City, Pa.
Schiedel Iron Works, Macon, Ga.
Vilter Mfg. Co., Milwaukee, Wis.

UNFLOW.

Ames Iron Works, Oswego, N. Y.

ENVELOPES.

Young & Selden Co., Baltimore, Md.

EVAPORATORS. (Chemical.)

Birmingham Mch. & Fdry. Co., Birmingham, Ala.

EXCAVATING MACHINERY.

Ball Engine Co. (Erie Steam Shovel Co.), Erie, Pa.
Bay City Dredge Works, Bay City, Mich.
Buckeye Traction Ditcher Co., Findlay, Ohio.
Byers Machine Co., The, John F., Ravenna, O.
Fairbanks Steam Shovel Co., Marion, Ohio.
Hayward Co., The, New York, N. Y.
Keystone Driller Co., Beaver Falls, Pa.
Lidgerwood Mfg. Co., New York, N. Y.
Monaghan Machine Co., Chicago, Ill.
Morrison Machine Works, Baldwinville, N. Y.
Osgood Co., The, Marion, Ohio.
Owen Bros. Co., The, Cleveland, Ohio.
Sauermaier Bros., Chicago, Ill.

EXCAVATORS.

CABLEWAY DRAGLINE.
Ball Engine Co. (Erie Steam Shovel Co.), Erie, Pa.
Sauermaier Bros., Chicago, Ill.

TRENCH.

Ball Engine Co. (Erie Steam Shovel Co.), Erie, Pa.
Bay City Dredge Works, Bay City, Mich.
Buckeye Traction Ditcher Co., Findlay, Ohio.
Fairbanks Steam Shovel Co., Marion, Ohio.
Hayward Co., The, New York, N. Y.
Keystone Driller Co., Beaver Falls, Pa.
Monaghan Machine Co., Chicago, Ill.

EXCELSIOR MACHINERY.

Kline, Lewis T., Alpena, Mich.

EXHAUST FANS. (Acid Proof.)

Duriron Casting Co., Dayton, Ohio.

EXHAUST HEADS.

Abendroth & Root Mfg. Co., Newburgh, N. Y.
American Spiral Pipe Works, Chicago, Ill.

EXPANDED METAL LATH REINFORCING.

Consolidated Expanded Metal Co., Braddock, Pa.

EXPANSION JOINTS. (Street and Road.)

Northwestern Expanded Metal Co., Chicago, Ill.

EXPERT. (Agricultural.)

Morse, Stanley F., New Orleans, La.

EXPLOSIVES.

Aetna Explosives Co., Inc., New York, N. Y.
Kersey Powder Co., Wilmington, Del.
Du Pont de Nemours & Co., E. I., Wilm'ton, Del.

EXPORTERS.

American Steel Export Co., New York, N. Y.
Burgess & Co., D. H., Petersburg, Va.

FACTORY SITES. (Town and Railroad.) [See Industrial, Agricultural and Commercial Opportunities.]

Birmingham Realty Co., Birmingham, Ala.
Martien & Co., Wm., Baltimore, Md.

FEED-WATER HEATERS AND PURIFIERS.

American Water Softener Co., Philadelphia, Pa.
Murray Iron Works Co., Burlington, Iowa.
Watlington Pump & Mch. Corp., New York, N. Y.

FELT. (Building Sheathing.)

Barrett Co., New York, N. Y.

FELT PARTS. (Mechanical Purposes.)

Booth Felt Co., Inc., Brooklyn, N. Y.

FENCING.

CORRUGATED, GALVANIZED, CONCRETE.
Amer. Sheet & Tin Plate Co., Pittsburgh, Pa.

WOVEN WIRE FIELD.

American Steel & Wire Co., Chicago, Ill.
Anchor Post Iron Works, New York, N. Y.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.
Page Steel & Wire Co., Adrian, Mich.
Wright Wire Co., The, Worcester, Mass.

FENCING, ENTRANCE GATES. (Iron, Steel, Wire.)

American Steel & Wire Co., Chicago, Ill.
Anchor Post Iron Works, New York, N. Y.
Bolles Iron & Wire Works, J. E., Detroit, Mich.
Cyclone Fence Co., Waukegan, Ill.
Dow Wire & Iron Works, Inc., Louisville, Ky.
Dufur & Co., Baltimore, Md.
New Jersey Wire Cloth Co., Trenton, N. J.
Page Steel & Wire Co., Adrian, Mich.
Van Dorn Iron Works Co., The, Cleveland, Ohio.

FERTILIZER MACHINERY.

K-B Pulverizer Co., Inc., New York, N. Y.
Raymond Bros. Imp. Pulverizer Co., Chicago, Ill.
Valk & Murdoch Co., Charleston, S. C.

FILES.

Barnett Co., G. & H., Philadelphia, Pa.
Nicholson File Co., Providence, R. I.

FILTERS. (For Domestic and Ind. Purposes.)

American Water Softener Co., Philadelphia, Pa.
Electric Ozone Sterilizer Co., Chicago, Ill.
International Filter Co., Chicago, Ill.
Pittsburgh Filter Mfg. Co., Pittsburgh, Pa.
Richmond Water Softener Co., Richmond, Ind.
Roberts Filter Mfg. Co., Darby, Pa.

FINANCING.

Electric Bond & Share Co., New York, N. Y.

FIRE CLAY FLUE LININGS.

Stevens Bros. & Co., Stevens Pottery, Ga.

FIRE ESCAPES.

Bolles Iron & Wire Works, J. E., Detroit, Mich.
Chattanooga Rfg. & Fdy. Co., Chattanooga, Tenn.
Chesapeake Iron Works, Baltimore, Md.

FIREPLACES. (Brick and Tile.)

Hood Brick Co., B. Millin, Atlanta, Ga.

FIREPROOF BUILDING MATERIAL.

Aspronit Company, Pittsburgh, Pa.
Bannon Pipe Co., P., Louisville, Ky.
Burger Mfg. Co., Canton, Ohio.
General Fireproofing Co., Youngstown, Ohio.

FIREPROOF DOORS AND SHUTTERS.

Kinneer Mfg. Co., Columbus, Ohio.

FIREPROOFING. (Brick and Tile.)

Hood Brick Co., B. Millin, Atlanta, Ga.

FIREPROOF MATERIAL AND CONSTRUCTION.

Detroit Steel Products Co., Detroit, Mich.

FIRE SPRINKLING SYSTEMS.

Globe Automatic Sprinkler Co., Philadelphia, Pa.

FITTINGS. (Malleable and Cast.)

Ohio Pipe Co., Findlay, Ohio.

FITTINGS. (Wire Rope.)

Waterbury Co., New York, N. Y.

FLAG POLES. (Iron and Steel.)

National Tube Co., Pittsburgh, Pa.

FLANGES. (Iron and Steel.)

American Cast Iron Pipe Co., Birmingham, Ala.
American Spiral Pipe Works, Chicago, Ill.
Bart Mfg. Co., E. M., Providence, R. I.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Cast Iron Pipe Fdry. Co., Burlington, S. I.
Wood Co., H. D., Philadelphia, Pa.

FLOORING.

COMPOSITION.
Acme Asbestos Covering & Sup. Co., Chicago, Ill.
Johns-Manville Co., H. W., New York, N. Y.
Crescent Block Co., Indianapolis, Ind.
Republic Crocketing Co., Indianapolis, Ind.

HARDWOOD, MAPLE, OAK.

Whiting, Wm. S., Elizabethton, Tenn.

NON-SLIPPING METAL.

Irving Iron Works Co., Long Island City, N. Y.

FLOOR HARDENERS. (For Concrete.)

Somnerton Sons, Inc., L., New York, N. Y.

FLOOR LAMPS.

Mitchell Vance Co., Inc., New York, N. Y.

FLOOR PLUGS.

Van Dorn Iron Works Co., The, Cleveland, Ohio.

FLOUR AND GRIST MILL MACHINERY AND SUPPLIES.

Caldwell Son Co., H. W., Chicago, Ill.
Starr Co., B. F., Baltimore, Md.
Wolf Co., Chambersburg, Pa.

FLUE LINING.

PRODUCERS.
 Adams Co., H., Pittsburgh, Pa.
 Adams Construction Co., Worcester, Mass.
 Adams Co., The S. R., Pittsburgh, Pa.
 Adams-Lever-Morgan Co., The Cleveland, O.
 Adams Elec. & Mfg. Co., E. Pittsburgh, Pa.
 Adams & Co., R. D., Philadelphia, Pa.
GASOLINE AND KEROSENE.
 Adams Refining Co., Pittsburgh, Pa.
 Adams Oil Co. of Louisiana, Baton Rouge, La.
 Adams Co., The, New York, N. Y.
GEARS.
 Adams & Son Co., H. W., Chicago, Ill.
 Adams Truck & S'ply Mfg. Co., Columbus, Ga.
 Adams-Morris Co., Philadelphia, Pa.
 Adams Mfg. Co., Columbus, Ohio.
GEAR CUTTING.
 Adams-Blakeley Mfg. Co., Birmingham, Ala.
GENERATING SETS.
 Adams Electric Co., The, Cincinnati, Ohio.
GEOLOGISTS.
 Adams, George C., Philadelphia, Pa.
 Adams & Robertson, Richmond, Va.
GLASS.
 Adams (Plate, etc.), Memphis Tenn.
 Adams Turner Glass Co., Washington, D. C.
GLASS CONSTRUCTION.
 Adams Steel Products Co., Detroit, Mich.
GLAZING CONSTRUCTION.
 Adams Company, Pittsburgh, Pa.
GLUE.
 Adams & Smith Co., New York, N. Y.
GOVERNORS.
 Adams Governor Co., Portland, Conn.
GRADERS.
 Adams Machine Co., Milwaukee, Wis.
GRAIN ELEVATOR SUPPLIES.
 Adams & Son Co., H. W., Chicago, Ill.
 Adams Mfg. Co., Columbus, Ohio.
GRAPHITE.
 Adams Crucible Co., Joseph, Jersey City, N. J.
GRANITE SAND.
 Adams Quarries Co., A. T., Macon, Ga.
GRAPHITE MACHINERY.
 Adams Mchry. Co., W. O., Nashville, Tenn.
GRATES.
 Adams-Brooks Co., Scranton, Pa.
GRATES AND GRATE BARS.
 Adams Iron & Metal Co., Savannah, Ga.
 Adams Machine Co., Richmond, Va.
 Adams Grate Bar Co., Birmingham, Ala.
 Adams Machine Co., Henry, Louisville, Ky.
GRATING.
 Adams (Elevator, Ventilators, Etc.)
 Adams Iron Works Co., Long Island City, N. Y.
GRAVEL.
 Adams (Roofing and Road).
 Adams Ballast Co., Knoxville, Tenn.
 Adams Sand & Gravel Co., Baltimore, Md.
 Adams & Laurie Gravel Co., Montgomery, Ala.
 Adams Fuel & Supply Co., Macon, Ga.
GRAVITY SPIRAL CHUTES.
 Adams Manufacturing Co., St. Louis, Mo.
 Adams Ferguson Co., New York, N. Y.
 Adams Wire & Iron Works, Inc., Louisville, Ky.
 Adams Co., The, Boston, Mass.
 Adams Gravity Carrier Co., Elwood City, Pa.
GREASE.
 Adams Lubricating Co., New York, N. Y.
 Adams Oil Co. of La., Baton Rouge, La.
 Adams & Finch Co., New York, N. Y.
GREASE CUPS.
 Adams Lubricating Co., New York, N. Y.
 Adams Greiner Co., The, Cincinnati, Ohio.
GREASE AND LUBRICATING COMPOUNDS.
 Adams Lubricating Co., New York, N. Y.
 Adams Greiner Co., New York, N. Y.
 Adams & Son Co., Wm. C., Baltimore, Md.
 Adams Oil Co. of Louisiana, Baton Rouge, La.
 Adams & Finch Co., New York, N. Y.
 Adams Co., The, New York, N. Y.
GRINDERS.
 Adams, Limestone, Etc.
 Adams Pulverizer Co., Allentown, Pa.
 Adams-Lehigh Co., Fullerton, Pa.
 Adams Bros. Imp. Pulverizer Co., Chicago, Ill.
 Adams Patent Crusher & Pulv. Co., Chicago, Ill.
EMERY WHEELS.
 Adams & Perks Tool Co., The, Springfield, Ohio.
UNIVERSAL.
 Adams & Perks Tool Co., The, Springfield, Ohio.
GRINDING WHEEL DRESSERS.
 Adams-Stephen Dresser Co., The, Urbana, O.
GRINDING WHEELS.
 Adams Wheel Co., Westfield, Mass.
GROMMETS AND WASHERS.
 Adams Co., Edwin B., Brooklyn, N. Y.
GROOVERS.
 Adams Bros. Saw Mfg. Co., Inc., Rochester, N. Y.
GUARDS.
 Adams (For Machinery).
 Adams Wire Co., The, Worcester, Mass.
GUNPOWDER.
 Adams Explosive Co., Inc., New York, N. Y.
 Adams Powder Co., Wilmington, Del.
 Adams de Nemours & Co., E. I., Wilton, Del.
HAMMERS.
 Adams (Belt or Motor Driven).
 Adams & Co., Inc., Boston, Mass.
HAMMERS.
 Adams (Shell Nosing).
 Adams & Co., Inc., Boston, Mass.
HAMMERS.
 Adams (Steam, Power, Pneumatic).
 Adams-Rand Co., New York, N. Y.
HAMMERS.
 Adams (Line Shaft).
 Adams & Mach Co., Manheim, Pa.
 Adams Roller Bearing Co., New York, N. Y.
HARBOR IMPROVEMENTS.
 Adams, Gulf & Pacific Co., New York, N. Y.
HARD IRON STARS.
 Adams Mfg. Co., The, Cleveland, Ohio.
HAY TOOLS.
 Adams & Bro., F. E., Ashland, Ohio.
HEATERS.
 Adams & Son Co., F. D., The, Cleveland, Ohio.
HEATERS.
 Adams (Chemical Plants).
 Adams Mch. & Fdry. Co., Birmingham, Ala.
HEATING APPARATUS, ENGINEERS AND CONTRACTORS.
 Adams Steam Pump Co., Buffalo, N. Y.
 Adams Gas Fan Co., Kalamazoo, Mich.
 Adams Heating Co., Cincinnati, Ohio.
 Adams-Coles Engineering Co., York, Pa.
 Adams Bros. Mfg. Co., St. Louis, Mo.
HEAT INSULATION.
 Adams Asso. of America, Philadelphia, Pa.
HOISTING MACHINERY.
 Adams Engineering Co., Philadelphia, Pa.
 Adams Plant Corp., Buffalo, N. Y.
 Adams Machine Co., The John F., Ravenna, Ohio.
 Adams Engine Co., Grand Haven, Mich.
 Adams Mfg. Co., S. Bangor, Pa.
 Adams Mfg. Co., New York, N. Y.
 Adams Machine Co., Chicago, Ill.
 Adams New Iron Works & Steel Co., Inc., New York, N. Y.
 Adams Electric Crane & Hoist Co., Montour Falls, N. Y.
 Adams Engine Works, Stroudsburg, Pa.
HOISTS.
 Adams Chain.
 Adams Engine Co., Grand Haven, Mich.
 Adams Chain Block & Mfg. Co., Philadelphia, Pa.
 Adams, J. G., Reading, Pa.

Topping Bros., New York, N. Y.
 Wright Mfg. Co., Lisbon, Ohio.
 Vale & Towne Mfg. Co., New York, N. Y.
ELECTRIC.
 Buffalo Holst & Derrick Co., New York, N. Y.
 Flory Mfg. Co., S. Bangor, Pa.
 Lidgerwood Mfg. Co., New York, N. Y.
 Monaghan Machine Co., Chicago, Ill.
 Olla Elevator Co., New York, N. Y.
 Patten Mfg. Co., Chattanooga, Tenn.
 Shepard Electric Crane & Hoist Co., Montour Falls, N. Y.
 Vale & Towne Mfg. Co., New York, N. Y.
GASOLINE.
 Noto Engine Co., Lansing, Mich.
 Patten Mfg. Co., Chattanooga, Tenn.
STEAM.
 American Cement Mch. Co., Inc., Keokuk, Iowa.
 Buffalo Plant Corp., Buffalo, N. Y.
 Buffalo Holst & Derrick Co., New York, N. Y.
 Ryers Machine Co., John F., Ravenna, Ohio.
 Duke Engine Co., Grand Haven, Mich.
 Flory Mfg. Co., Bangor, Pa.
 Lidgerwood Mfg. Co., New York, N. Y.
 Stroudsburg Engine Works, Stroudsburg, Pa.
HOLLOW BUILDING TILE.
 Asler Fireproofing Co., Washington, D. C.
 Oconee Brick & Tile Co., Milledgeville, Ga.
HOOPS, BANDS, ETC. (Galvanized).
 McCulla Co., Harold, Philadelphia, Pa.
HOSE.
 Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
 Goodyear Tire & Rubber Co., Akron, Ohio.
HOTELS.
 Hotel Essex, Boston, Mass.
 Murphy's Hotel, Richmond, Va.
HOT GALVANIZING.
 Hanlon-Gregory Galvanizing Co., Pittsburgh, Pa.
HOUSES.
 Multiple Pressed Steel.
 Trucon Steel Co., Youngstown, Ohio.
HULLS.
 Hulls (Steel, for Boats and Barges).
 American Bridge Co., New York, N. Y.
HUMIDITY REGULATION.
 Carrier Engineering Corp., New York, N. Y.
HUMIDIFYING APPARATUS.
 Carrier Engineering Corp., New York, N. Y.
HYDRANTS.
 Bourlon Copper & Brass Wks. Co., Cincinnati, O.
 Columbian Iron Works, Chattanooga, Tenn.
 Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
 Myers & Bro., F. E., Ashland, Ohio.
 Wood & Co., R. D., Philadelphia, Pa.
HYDRAULIC GIANTS.
 American Spiral Pipe Works, Chicago, Ill.
ICE AND REFRIGERATING BOXES.
 Brecht Co., The, St. Louis, Mo.
 Ottelheimer Bros., Baltimore, Md.
ICE-MAKING MACHINERY AND SUPPLIES.
 Arctic Ice Machine Co., Canton, Ohio.
 Berryman's Refrigerating Mch., Ex., Phila., Pa.
 Brecht Co., The, St. Louis, Mo.
 De La Vergne Mch. Co., New York, N. Y.
 Frick Co., Waynesboro, Pa.
 Triumph Ice Machine Co., The, Cincinnati, Ohio.
 Viter Mfg. Co., Milwaukee, Wis.
 Vogt Bros. Mfg. Co., Louisville, Ky.
 Vogt Machine Co., Inc., Henry, Louisville, Ky.
IMPORTERS.
 Burgess & Co., D. H., Petersburg, Va.
INCORPORATORS.
 Delaware Regist. Trust Co., Wilmington, Del.
INDUSTRIAL, AGRICULTURAL AND COMMERCIAL OPPORTUNITIES.
 Birmingham Realty Co., Birmingham, Ala.
RAILROADS.
 Carolina, Clinch, & O. Ry., Johnson City, Tenn.
 Central of Georgia Ry., Savannah, Ga.
 Florida East Coast Ry., St. Augustine, Fla.
 Georgia & Florida Ry., Augusta, Ga.
 Model Land Company of the Flagler System, St. Augustine, Fla.
INJECTORS.
 Edna Brass Mfg. Co., Cincinnati, Ohio.
 Lunkheimer Co., The, Cincinnati, Ohio.
 Randle Machinery Co., Cincinnati, Ohio.
 Sellers & Co., Inc., Wm., Philadelphia, Pa.
INSTRUMENTS.
 Weston Electrical Instrument Co., Newark, N. J.
INSULATING MATERIALS.
 General Electric Co., Schenectady, N. Y.
 Johns-Manville Co., H. W., New York, N. Y.
INSURANCE.
 Holden Co., Chas. F., Washington, D. C.
 Jemison Real Estate & Insurance Co., Birmingham, Ala.
LIABILITIES.
 Holden Co., Chas. F., Washington, D. C.
LIFE.
 Thomas & Thomas, Baltimore, Md.
INTERIOR CONDUITS.
 National Metal Molding Co., Pittsburgh, Pa.
INVESTMENTS.
 Jemison Real Estate & Insurance Co., Birmingham, Ala.
INVESTMENT SECURITIES.
 Edwards, Geo. B., New York, N. Y.
 Electric Bond & Share Co., New York, N. Y.
 Hanchett Bond Co., The, Chicago, Ill.
 Horstover & Weeks, New York, N. Y.
 Mercantile Trust & Deposit Co., Baltimore, Md.
 Nureen & Co., John, Chicago, Ill.
 Powell, Spitzer & Co., Chicago, Ill.
 Sidney, Spitzer & Co., Toledo, Ohio.
 Slayton & Co., W. L., Toledo, Ohio.
IRON.
 Aborn Steel Co., New York, N. Y.
 Allegheny Steel Co., Pittsburgh, Pa.
 La Belle Iron Works, Steubenville, Ohio.
 Republic Iron & Steel Co., Youngstown, Ohio.
 Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
 Union Drawn Steel Co., Beaver Falls, Pa.
 Wood Iron & Steel Co., Alan, Philadelphia, Pa.
IRON ORES.
 Southern Minerals Corp., Boston, Mass.
IRRIGATING MACHINERY.
 Cameron St. Pump Wks., A. S., New York, N. Y.
JETTY STONES.
 Small Quarries Co., A. T., Macon, Ga.
JOIST HANGERS.
 Van Dorn Iron Works Co., The, Cleveland, Ohio.
KETTLES, JACKETS & PLAIN.
 Durrion Castings Co., Dayton, Ohio.
 Valley Iron Works, Williamsport, Pa.
KNITTING MACHINERY.
 Scott & Williams, New York, N. Y.
LACE LEATHER.
 Graton & Knight Mfg. Co., Worcester, Mass.
 Schieren Co., Chas. A., New York, N. Y.

LADDER TREADS.
 Irving Iron Works Co., Long Island City, N. Y.
LADDERS.
 Myers & Bros., F. E., Ashland, Ohio.
LAMPS.
 (Are and Incandescent).
 General Electric Co., Schenectady, N. Y.
 Consolidated Electric Mfg. Co., E. Pittsburgh, Pa.
 Westhouse Electric Mfg. Co., E. Pittsburgh, Pa.
 Westinghouse Lamp Co., New York, N. Y.
LAMPS.
 (Carbon and Tungsten).
 Newman Electric Lamp Co., Cincinnati, Ohio.
LATH.
 Berger Mfg. Co., Canton, Ohio.
 Consolidated Expanded Metal Co's, Braddock, Pa.
 Edwards Mfg. Co., Cincinnati, Ohio.
 General Fireproofing Co., Youngstown, Ohio.
 Northwestern Expanded Metal Co., Chicago, Ill.
LAWN FURNITURE.
 (Wire).
 Bolles Iron & Wire Works, J. E., Detroit, Mich.
 Dufur & Co., Baltimore, Md.
 Dufur, Baggett & Co., Baltimore, Md.
LIGHTING FIXTURES.
 Mitchell, Vance Co., Inc., New York, N. Y.
LIMESTONE.
 (Building).
 Ind. Limestone Quarrymen's Assn., Bedford, Ind.
LINE SHAFT BEARINGS AND HANGERS.
 Hyatt Roller Bearing Co., New York, N. Y.
LIQUOR FILTERS.
 International Filter Co., Chicago, Ill.
LITHOGRAPHERS, ENGRAVERS.
 Roberts & Sons, Birmingham, Ala.
 Young & Selden Co., Baltimore, Md.
LOADING AND UNLOADING MCHY.
 (Portable).
 Portable Machinery Co., Inc., Passaic, N. J.
LOCKERS.
STEEL.
 Berger Mfg. Co., Canton, Ohio.
 Dexter Metal Mfg. Co., Camden, N. J.
 Edwards Mfg. Co., Cincinnati, Ohio.
LOCOMOTIVES.
INDUSTRIAL.
 Baldwin Locomotive Wks., The, Philadelphia, Pa.
 Climax Mfg. Co., Corty, Pa.
 General Equipment Co., New York, N. Y.
 Jeffrey Mfg. Co., Columbus, Ohio.
 Porter Co., H. K., Pittsburgh, Pa.
RAILWAY.
 Baldwin Locomotive Wks., The, Philadelphia, Pa.
 General Equipment Co., New York, N. Y.
 Porter Co., H. K., Pittsburgh, Pa.
LOOMS AND WEAVING MACHINERY.
 Crompton & Knowles Loom Wks., Worcester, Mass.
 Draper Corporation, Hopedale, Mass.
 Saco-Lowell Shops, Boston, Mass.
LUBRICANTS.
 Albany Lubricating Co., New York, N. Y.
 Borne, Scraper Co., New York, N. Y.
 Otis Elevator Co., New York, N. Y.
 Standard Oil Co. of Louisiana, Baton Rouge, La.
 Swan & Finch Co., New York, N. Y.
 Texas Co., The, New York, N. Y.
LUBRICANTS.
 (Graphite).
 Dixon Crucible Co., Joseph, Jersey City, N. J.
LUBRICATORS.
 Edna Brass Mfg. Co., Cincinnati, Ohio.
LUMBER.
CEILING, FLOORING, SIDING.
 Bacon & Sons, A. S., Savannah, Ga.
CROSBOT.
 American Croscote Works, New Orleans, La.
 Croscote Materials Co., Inc., New Orleans, La.
HEAVY CONSTRUCTION, PITCH PINE, ETC.
 Bacon & Sons, A. S., Savannah, Ga.
YELLOW PINE.
 Bacon & Sons, A. S., Savannah, Ga.
INDUSTRIAL LUMBER.
 Industrial Lumber Co., Elizabeth, La.
LUMBER BUOYS.
 Soule Steam Feed Works, Meridian, Miss.
LUMBER STACKERS.
 Soule Steam Feed Works, Meridian, Miss.
MACHINERY.
 (Special).
 American-Blakeley Mfg. Co., Birmingham, Ala.
 Bliss Co., E. W., Brooklyn, N. Y.
 Clark Bros. Co., Olean, N. Y.
 Delaware Marine Motors Co., Wilmington, Del.
 Folts Mfg. & Supply Co., Hagerstown, Md.
 Kentucky Electrical Co., Owensboro, Ky.
 Kline, Louis T., Alpena, Mich.
 Riddell Bros., Inc., Atlanta, Ga.
 Stratton & Bragg Co., Petersburg, Va.
MACHINERY AND SUPPLIES.
 (New and Second-hand).
 American Metallic Packing Co., Lexington, Ky.
 Baumes-De Vit Mfg. Co., St. Louis, Mo.
 Bay City Dredge Co., Bay City, Mich.
 Bean & Son Co., Jacksonville, Fla.
 Beckwith Machinery Co., The, Pittsburgh, Pa.
 Boston Iron & Metal Co., Inc., Baltimore, Md.
 Bruch, H. M., Syracuse, N. Y.
 Carey Co., The, New York, N. Y.
 Cleveland Belting & Mch. Co., The, Cleveland, O.
 Clifton-Pratt Co., The, Cincinnati, Ohio.
 Consol. Mchry. & Wrecking Co., New York, N. Y.
 Contractors' Mchry. & Supply Co., Pittsburgh, Pa.
 Con. Mchry. & Wreck. Co., Inc., New York, N. Y.
 Davis, J. R., Chicago, Ill.
 Easton Machinery Co., Easton, Pa.
 Electric Mchry. & Equip. Co., Chicago, Ill.
 Empire Mchry. & Supply Corp., Norfolk, Va.
 Empire Engineering Co., Inc., Norfolk, Va.
 Frost-Friedman Co., The, Cleveland, Ohio.
 Greene, John M., Philadelphia, Pa.
 Gregory Electric Co., Chicago, Ill.
 Harris Bros. Co., Chicago, Ill.
 Harrisburg Fdy. & Mach. Wks., Harrisburg, Pa.
 Hartrider-Garbutt Machinery Co., Savannah, Ga.
 Hawkins-Hamilton Co., Inc., The, Richmond, Va.
 Herfurth Engine Co., Alexandria, Va.
 Hittner's Sons Co., Henry A., Philadelphia, Pa.
 Hodgson Machinery Co., Knoxville, Tenn.
 Hoisting Engine Sales Co., Inc., New York, N. Y.
 Hoisting Machinery Co., New York, N. Y.
 Jones Machinery Co., K. L., Atlanta, Ga.
 Joseph Iron Co., Isaac, Cincinnati, Ohio.
 Keystone Pipe & Supply Co., Butler, Pa.
 Klein & Co., Nathan, New York, N. Y.
 Lane Equipment Co., J., Springfield, Ohio.
 Leiman, Chas. T., Birmingham, Ala.
 Lewis Co., Ralph R., Philadelphia, Pa.
 Lodge & Shipley Machine Tool Co., Cincinnati, O.
 Lower Co., W. B., Chicago, Ill.
 May & Turner Co., Atlanta, Ga.
 McLaughlin & Co., A. A., Cincinnati, Ohio.
 Machinery Exchange Co., New Orleans, La.
 Machinery Warehouse & Sales Co., Chicago, Ill.
 Males Co., The, New York, N. Y.
 Malloy Machinery Corp., Baltimore, Md.
 Malloy Machinery Co., Jacksonville, Fla.
 Marine Metal & Supply Co., New York, N. Y.
 Maser, F., Chicago, Ill.
 Miller-Crippen Equipment Co., Syracuse, N. Y.
 Miller-Owen Electric Co., Inc., Pittsburgh, Pa.
 Modern Mchry. Exchange, New York, N. Y.
 Moore Bros., Chicago, Ill.
 Motter's Sons, Geo. F., York, Pa.
 National Equipment Co., Philadelphia, Pa.
 National Trading Co., New York, N. Y.
 Neasman & Co., V. M., Ft. Wayne, Ind.

O'Brien Machinery Co., Philadelphia, Pa.
 Partridge, Arthur S., St. Louis, Mo.
 Payne, Howard B., Pittsburgh, Pa.
 Penn Supply & Equipment Co., Philadelphia, Pa.
 Pfannmuller Engineering Co., Chicago, Ill.
 Pipe & Contractors Supply Co., New York, N. Y.
 Pittsburgh Mchry. & Equip. Co., Pittsburgh, Pa.
 Potts & Co., Henry, Philadelphia, Pa.
 Power Machinery Exchange, Jersey City, N. J.
 Prentiss & Co., Inc., Henry, New York, N. Y.
 Queen City Iron & Metal Co., Charlotte, N. C.
 Quandle Machinery Co., Cincinnati, Ohio.
 Reliance Equipment Co., Mobile, Ala.
 Ross Power Equipment Co., Indianapolis, Ind.
 Sachsmaier & Co., Geo., Philadelphia, Pa.
 Samler Bros., Inc., Baltimore, Md.
 Seely-Jones & Co., Chicago, Ill.
 Seeger-Walraven Co., Atlanta, Ga.
 Seyfert's Sons, Inc., L. E., Philadelphia, Pa.
 Shaw, Willis, Chicago, Ill.
 Simmons-Briggs Co., Memphis, Tenn.
 Souken-Galamia Iron & Metal Co., Kan. City, Mo.
 South Side Fdry. & Mch. Wks., Charleston, W. Va.
 Southern Iron & Metal Co., Jacksonville, Fla.
 Southern Machinery Co., Knoxville, Tenn.
 Southern States Equip. Co., New Orleans, La.
 Sterling Iron & Steel Co., Philadelphia, Pa.
 Stewart, S. J. (Electric), New Orleans, La.
 Stewart, Paul, Cincinnati, Ohio.
 Straley, Don't B., Crown Point, Ind.
 Sun Power Equipment Co., Philadelphia, Pa.
 Tampa Machinery Exchange, Tampa, Fla.
 Terwilliger Equipment Co., Philadelphia, Pa.
 Texas Power & Light Co., Dallas, Texas.
 Tiller Co., Inc., J. G., Briceville, Va.
 Toomey, Frank, Inc., Philadelphia, Pa.
 Torbert, A. C., Chicago, Ill.
 United Machine Works, New York, N. Y.
 Wayne Machinery Co., Ft. Wayne, Ind.
 Wayne Supply Co., Roy C., Louisville, Ky.
 Wilson Mchry. Co., St. Louis, Mo.
 Wood & Co., N. Inc., Philadelphia, Pa.
 Zelnick Supply Co., Walter A., St. Louis, Mo.
MACHINE TOOLS.
 Houston, Stanwood & Gamble Co., The, Cin., O.
 Niles-Bement-Pond Co., New York, N. Y.
 Riddell Bros., Inc., Atlanta, Ga.
MAGNETIC SEPARATORS.
 Buchanan Co., Inc., C. G., New York, N. Y.
MAIL CHUTES.
 Cutler Mail Chute Co., Rochester, N. Y.
MANGANESE.
 Southern Minerals Corp., Boston, Mass.
MANTELS.
 (Period Designs in Composition).
 Mitchell, Vance Co., Inc., New York, N. Y.
MECHANICAL DRAFT.
 Buffalo Forge Co., Buffalo, N. Y.
 Clamage Fan Co., Kalamazoo, Mich.
METALINE.
 Metaline Co., Long Island City, N. Y.
METAL CUTTING MACHINES.
 Atkins & Co., Inc., E. C., Indianapolis, Ind.
 Racine Tool & Machine Co., Racine, Wis.
METAL.
 (For Tanks, Culverts, Roofing, etc.)
 Trumbull Steel Co., Warren, Ohio.
 Whitaker-Glessner Co., Wheeling, W. Va.
METAL-WORKING MACHINERY.
 Bliss Co., E. W., Brooklyn, N. Y.
 Niles-Bement-Pond Co., New York, N. Y.
MICROMETERS, CALIPERS, ETC.
 Starrett Co., L. S., Athol, Mass.
MILK FILTERS.
 (Liquor, Milk, etc.)
 International Filter Co., Chicago, Ill.
MILL MACHINERY AND SUPPLIES.
 Bailey-Libby Co., Inc., Charleston, S. C.
 Booth Felt Co., Brooklyn, N. Y.
 Empire Mchry. & Supply Corp., Norfolk, Va.
 Mfg. Mchry. & Supply Co., Hagerstown, Md.
 Loundal Iron Works, Augusta, Ga.
 Mecklenburg Iron Works, Charlotte, N. C.
 New Bern Iron Works & Steel Co., Inc., New Bern, N. C.
 Starr Co., B. F., Baltimore, Md.
 Stratton & Bragg Co., Petersburg, Va.
 Wolf Co., Chambersburg, Pa.
MILL SUPPLIES.
 Kries & Sons Co., Henry A., Baltimore, Md.
MILL TIMBER.
 Moss-Downer Lumber Co., Valdosta, Ga.
MILL WORK.
 (Lumber, All Kinds).
 Bacon & Sons, A. S., Savannah, Ga.
MINE LAMPS.
 (Electric).
 Edison Storage Battery Co., Orange, N. J.
MINING MACHINERY.
 Jeffrey Mfg. Co., Columbus, Ohio.
 McLannan-Stone Mch. Co., Holidaysburg, Pa.
 Mecklenburg Iron Works, Charlotte, N. C.
 The Automatic Shovel Co., Lorain, Ohio.
 Wellman-Leaver-Morgan Co., The, Cleveland, O.
MIXERS.
 (Cement Concrete).
 American Cement Mch. Co., Inc., Keokuk, Iowa.
 Eureka Machine Co., Lansing, Mich.
 Insley Manufacturing Co., Indianapolis, Ind.
 Jaeger Machine Co., Columbus, Ohio.
 Koehring Machine Co., Milwaukee, Wis.
 Northwestern Steel & Iron Wks., Eau Claire, Wis.
 Standard Scale & Supply Co., Pittsburgh, Pa.
 Waterloo Cement Mchry. Corp., Waterloo, Iowa.
HOT.
 Koehring Machine Co., Milwaukee, Wis.
MORTAR COLORS.
 Chattanooga Paint Co., Chattanooga, Tenn.
MOTOR TRUCKS.
 (Gasoline).
 Garford Motor Truck Co., Lima, Ohio.
 General Motors Truck Co., Pontiac, Mich.
 International Motor Co., New York, N. Y.
 Republic Motor Truck Co., Inc., Alma, Mich.
 Sterling Motor Truck Co., Milwaukee, Wis.
 U. S. Motor Truck Co., The, Cincinnati, Ohio.
MUSIC WIRE.
 Aborn Steel Co., New York, N. Y.
 American Steel & Wire Co., Chicago, Ill.
 Waterbury Co., The, New York, N. Y.
MAIL MACHINERY.
 (Wire).
 Sleeper & Hartley, Inc., Worcester, Mass.
NAILES.
CUT.
 La Belle Iron Works, Steubenville, Ohio.
WIRE, ALL KINDS.
 Atlantic Steel Co., Atlanta, Ga.
 Gulf States Steel Co., Birmingham, Ala.
NAILES AND SPIKES.
 Bethlehem Steel Co., South Bethlehem, Pa.
 La Belle Iron Works, Steubenville, Ohio.
 Republic Iron & Steel Co., Youngstown, Ohio.
 Stimpson Co., Edwin B., New York, N. Y.
 Youngstown Sheet & Tube Co., Youngstown, O.
NAME PLATES.
 (For Highways).
 Union Iron Products Co., East Chicago, Ind.
NICKEL.
 (Baron-Alloying). [Shot].
 American Boron Products Co., Reading, Pa.
NOZZLES.
 (Aerating Sprinkler, etc.)
 Spry Engineering Co., Boston, Mass.
NUTS.
HOT PRESSED.
 St. Louis Screw Co., St. Louis, Mo.
SEMI-FINISHED.
 St. Louis Screw Co., St. Louis, Mo.
OIL CANS.
 Wall Mfg. Supply Co., I.
OIL MILL MACHINERY.
 Burrus Engineering

OILS. (Lubricating, etc.)

Albany Lubricating Co., New York, N. Y.
Borne, Strymer Co., New York, N. Y.
Corden Co., Tulsa, Okla.
Gulf Refining Co., Pittsburgh, Pa.
Hobinson & Son Co., Wm. C., Baltimore, Md.
Standard Oil Co. of Louisiana, Baton Rouge, La.
Swan & Finch Co., New York, N. Y.
Texas Co., The, New York, N. Y.

OIL WELL MACHINERY.

Cook, A. D., Lawrenceburg, Ind.
Keystone Pipe & Supply Co., Butler, Pa.
Lucy Mfg. Co., New York, N. Y.
Williams Bros., Ithaca, N. Y.

ORE WASHING MACHINERY.

Davis Foundry & Machine Works, Rome, Ga.
McLanahan Stone Mach. Co., Hollidaysburg, Pa.

ORNAMENTAL IRON WORKS.

Bolles Iron & Wire Wks., J. E., Detroit, Mich.
Chattanooga Pipe & Fdy. Co., Chattanooga, Tenn.
Dexter Metal Mfg. Co., Camden, N. J.
Dow Wire & Iron Works, Inc., Louisville, Ky.
Newman Mfg. Co., The, Cincinnati, Ohio.
Page Steel & Wire Co., Adrian, Mich.
Rennick Iron & Bridge Wks., Inc., Danville, Va.
Sneed Architectural Iron Wks., Louisville, Ky.

OXIGEN.

Linde Air Products Co., The, New York, N. Y.

**OXY-ACETYLENE WELDING AND CUTTING
OUTFIT AND SUPPLIES.**

Imperial Brass Mfg. Co., Chicago, Ill.

PACKING HOUSE APPARATUS.

Ottensmeyer Bros., Baltimore, Md.

PACKING. (Asbestos, Metallic, Rubber,
Leather, etc.)

Booth Felt Co., Inc., Brooklyn, N. Y.
Cincinnati Rubber Mfg. Co., Cincinnati, Ohio.
Dominy Asbestos & Rub. Corp., New York, N. Y.
Goodrich Co., H. F., Akron, Ohio.
Goodyear Tire & Rubber Co., Akron, Ohio.
Graton & Knight Mfg. Co., Worcester, Mass.
John-Manville Co., H. W., New York, N. Y.
Power Specialty Co., New York, N. Y.

PAINT.**METAL SURFACES.**

Dixon Crucible Co., Joseph, Jersey City, N. J.
Du Pont de Nemours & Co., E. I., Wilmington, Del.
Longman & Martinez, New York, N. Y.
Toch Bros., New York, N. Y.

PRESERVATIVE.

Arco Co., Cleveland, Ohio.
Du Pont de Nemours & Co., E. I., Wilmington, Del.
Longman & Martinez, New York, N. Y.
Toch Bros., New York, N. Y.

ROOFING, BUILDING, ETC.

Chattanooga Paint Co., Chattanooga, Tenn.
Longman & Martinez, New York, N. Y.

WATER. (For Interiors.)

Arco Co., Cleveland, Ohio.
Longman & Martinez, New York, N. Y.

PARTITIONS. (Metal, Wooden, Rolling.)

David Lupton's Sons Co., Philadelphia, Pa.
Detroit Steel Products Co., Detroit, Mich.

PATENT ATTORNEYS.

Brown, Eugene C., Washington, D. C.
Chandler & Chandler, Washington, D. C.
Whitaker, Norman T., Washington, D. C.

PAVING BLOCKS. (Wood.)

Crescent Materials Co., Inc., New Orleans, La.
Republic Creosoting Co., Indianapolis, Ind.
Southern Creosoting Co., Ltd., Sillit, La.
Southern Paving Const. Co., Chattanooga, Tenn.
Southern Wood Preserving Co., Atlanta, Ga.

PAVING BRICK.

Standard Brick Co., Macon, Ga.

PAVING MIXERS. (Concrete.)

American Cement Mach. Co., Inc., Keokuk, Iowa.
Jaeger Machine Co., The, Columbus, Ohio.
Standard Scale & Supply Co., Pittsburgh, Pa.

PAVING PLANTS. (Asphalt.)

Cumner & Son Co., P. D., Cleveland, Ohio.
Warner Bros. Co., Boston, Mass.

PERFORATED METAL.

Caldwell & Son Co., H. W., Chicago, Ill.
Eldred Perforating Co., Rochester, N. Y.
Harrington & King Perforating Co., Chicago, Ill.
Hendricks Mfg. Co., The, Carbonate, Pa.
Manhattan Perforated Metal Co., New York, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.

PETROLEUM REFINERS.

Corden & Co., Tulsa, Okla.
Gulf Refining Co., Pittsburgh, Pa.
Standard Oil Co. of Louisiana, Baton Rouge, La.
Texas Co., The, New York, N. Y.

PHOSPHATE MACHINERY.

American Process Co., New York, N. Y.
Bailey-Leiby Co., The, Charleston, S. C.
K-B Pulverizer Co., New York, N. Y.
McLanahan Stone Mach. Co., Hollidaysburg, Pa.
Vick & Murdoch Co., Charleston, S. C.

PIG IRON.

Alabama Co., The, Birmingham, Ala.
Bethlehem Steel Co., South Bethlehem, Pa.
Brier Hill Steel Co., Youngstown, Ohio.
Hammond-Bryd Co., The, Birmingham, Ala.
La Belle Iron Works, Steubenville, Ohio.
Republic Iron & Steel Co., Youngstown, Ohio.
Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.

PILING. (Creosoted.)

American Creosote Works, New Orleans, La.
Crescent Material Co., Inc., New Orleans, La.
Southern Creosoting Co., Ltd., Sillit, La.
Southern Paving Const. Co., Chattanooga, Tenn.

PILLW BLOCKS.

Caldwell Co., W. E., Louisville, Ky.
Golden's Foundry & Machine Co., Columbus, Ga.
Medart Patent Pulley Co., St. Louis, Mo.

PIPE.

La Belle Iron Works, Steubenville, Ohio.
National Tube Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CAST IRON.

American Cast Iron Pipe Co., Birmingham, Ala.
Cast Iron Pipe & Foundry Co., New York, N. Y.
Central Foundry Co., New York, N. Y.
Glamorgan Pipe & Foundry Co., Lynchburg, Va.
National Cast Iron Pipe Co., Birmingham, Ala.
U. S. Cast Iron Pipe & Fdy. Co., Burlington, N. J.
Wood & Co., R. D., Philadelphia, Pa.

COIL.

Frick Co., Waynesboro, Pa.

RIVETED.

Root Mfg. Co., Newburgh, N. Y.
I. Wks. & S. Co., Inc., New Bern, N.C.

HAND.

Chattanooga, Tenn.
Philadelphia, Pa.
Co., Butler, Pa.
Co., New York, N. Y.

Peerless Iron Pipe Etc., Inc., New York, N. Y.
Pipe & Contractors' Supply Co., New York, N. Y.

SPIRAL RIVETED.

Abendroth & Root Mfg. Co., Newburgh, N. Y.
American Spiral Pipe Works, Chicago, Ill.

SPIRAL STEEL.

Standard Spiral Pipe Works, Chicago, Ill.

STEEL.

National Tube Co., Pittsburgh, Pa.
La Belle Iron Works, Steubenville, Ohio.
Republic Iron & Steel Co., Youngstown, Ohio.
Youngstown Sheet & Tube Co., Youngstown, Ohio

WOOD.

Michigan Pipe Co., Bay City, Mich.
Pacific Tank & Pipe Co., San Francisco, Cal.
Standard Wood Pipe Co., Williamsport, Pa.
Wyckoff & Son Co., A., Elmira, N. Y.

WROUGHT IRON.

Youngstown Sheet & Tube Co., Youngstown, Ohio

PIPES & FITTINGS. (Acid Proof.)

Duriron Casting Co., Dayton, Ohio.

PIPE COVERINGS.

Magnesia Association of America, Phila., Pa.

PIPE FITTINGS.

American Cast Iron Pipe Co., Birmingham, Ala.
Crane Co., Chicago, Ill.
Griffith, James F., Philadelphia, Pa.
Kries & Sons Co., Henry A., Baltimore, Md.
Lunkenheimer Co., The, Cincinnati, Ohio.
National Cast Iron Pipe Co., Birmingham, Ala.

PIPE UNIONS AND JOINTS.

Dart Mfg. Co., E. M., Providence, R. I.

PISTON RINGS. (Compressors, Engines, etc.)

The Everlight Piston Ring Co., St. Louis, Mo.

PITCH.

Barrett Co., New York, N. Y.

PLATES.

Allegheny Steel Co., Pittsburgh, Pa.
Cincinnati Iron & Steel Co., Cincinnati, Ohio.
Midvale Steel & Ordnance Co., Philadelphia, Pa.
Wood Iron & Steel Co., Alan, Philadelphia, Pa.

POLES.

Northrup & Sons, C. E., Galatin, Tenn.

POLES. (Creosoted.)

American Creosote Works, New Orleans, La.
Crescent Material Co., Inc., New Orleans, La.
Southern Creosoting Co., Ltd., Sillit, La.
Southern Paving Const. Co., Chattanooga, Tenn.
Southern Wood Preserving Co., Atlanta, Ga.

POLISHING MACHINERY. (Wheels, Blocks.)

Vitrol Wheel Co., Westfield, Mass.

POSTS. (Cast Iron.) [Railway and Highway.]

Northrup & Sons, C. E., Galatin, Tenn.
U. S. Cast Iron Pipe & Fdy. Co., Burlington, N. J.

POST CAPS.

Van Dorn Iron Works Co., The, Cleveland, Ohio.

POWER TRANSMISSION MACHINERY.

Alvey Manufacturing Co., St. Louis, Mo.
Alvey-Ferguson Co., Inc., Cincinnati, Ohio.
Bailey-Leiby Co., Charleston, S. C.
Bond Fdy. & Mach. Co., Manheim, Pa.
Caldwell & Son Co., H. W., Chicago, Ill.
Caldwell Co., W. E., Louisville, Ky.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engr. Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Lansons Co., The, Boston, Mass.
Link-Belt Co., Philadelphia, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Moran Chain Co., Ithaca, N. Y.
Schaeffler Iron Works, Macon, Ga.
Smith-Courtney Co., Richmond, Va.
Standard Pressed Steel Co., Philadelphia, Pa.
The American Pulley Co., Philadelphia, Pa.
Wolf Co., The, Chambersburg, Pa.
Wood's Sons, T. B., Chambersburg, Pa.

PRESERVATIVE. (Canvas.)

Robeson Preserve Products Co., Port Huron, Mich.

PRESSES.

BALING, COTTONSEED OIL, ETC., HYDRAULIC
AND POWER.
Anderson Co., The, V. D., Cleveland, Ohio.
Banner Bros. Co., The, Springfield, Ohio.
Banning & Borchert Press Co., Inc., Syracuse, N. Y.
Cardwell Machine Co., Richmond, Va.
Continental Gin Co., Birmingham, Ala.
French Oil Mill Mchry. Co., The, Piqua, Ohio.
Murray Co., The, Atlanta, Ga.
Ripley Foundry & Machine Co., Ripley, Ohio.
Saco-Lowell Shops, Boston, Mass.

METAL STAMPING.

Stimpson Co., Edwin B., Brooklyn, N. Y.

STAMPING.

Ans. Machine Co., Max, Bridgeport, Conn.
Bliss Co., E. W., Brooklyn, N. Y.

PRINTERS. (Book, Catalog, Job, etc.)

Robert & Sons, Birmingham, Ala.
Fleet-McGinley Co., Baltimore, Md.

PRISON WORK.

Van Dorn Iron Works, The, Cleveland, Ohio.

PULLEYS.

Caldwell & Son Co., H. W., Chicago, Ill.
Caldwell Co., W. E., Louisville, Ky.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engr. Co., Mishawaka, Ind.
Medart Patent Pulley Co., St. Louis, Mo.
Wood's Sons, T. B., Chambersburg, Pa.

STEEL RING.

Medart Patent Pulley Co., St. Louis, Mo.
The American Pulley Co., Philadelphia, Pa.

WOOD SPLIT.

Caldwell & Son Co., H. W., Chicago, Ill.
Medart Patent Pulley Co., St. Louis, Mo.

PULLEYS, SHAFTING AND HANGERS.

Bond Fdy. & Mach. Co., Manheim, Pa.
Caldwell & Son Co., H. W., Chicago, Ill.
Conway & Co., Cincinnati, Ohio.
Cresson-Morris Co., Philadelphia, Pa.
Dodge Sales & Engr. Co., Mishawaka, Ind.
Golden's Foundry & Machine Co., Columbus, Ga.
Jeffrey Mfg. Co., Columbus, Ohio.
Jones & Laughlin Steel Co., Pittsburgh, Pa.
Medart Patent Pulley Co., St. Louis, Mo.
Standard Pressed Steel Co., Philadelphia, Pa.
The American Pulley Co., Philadelphia, Pa.
Wood's Sons, T. B., Chambersburg, Pa.

PULVERIZERS.

American Pulverizer Co., St. Louis, Mo.
Austin Mfg. Co., Chicago, Ill.
Fuller-Leigh Co., Fullerton, Pa.
Gruendler Pat. Crusher & Pulv. Co., St. Louis, Mo.
Jeffrey Mfg. Co., Columbus, Ohio.
K-B Pulverizer Co., Inc., New York, N. Y.
McLanahan-Stone Mach. Co., Hollidaysburg, Pa.
Raymond Bros. Impact, Pulv. Co., Chicago, Ill.
Traylor Engineering & Mfg. Co., Allentown, Pa.
Western Wheeled Scraper Co., Aurora, Ill.
Williams Pat. Crusher & Pulv. Co., Chicago, Ill.

PUMPING MACHINERY.

Cameron Steam Pump Wks., A.S., New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Dayton-Dick Co., Quincy, Ill.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Emerson Pump & Valve Co., Alexandria, Va.
Goulds Mfg. Co., Seneca Falls, N. Y.

Lea-Courtney Co., Newark, N. J.

Lucy Mfg. Co., New York, N. Y.
Moffatt Machy. Mfg. Co., Charlotte, N. C.
Morris Machine Works, Baldwinville, N. Y.
Mutual Foundry & Machine Co., Atlanta, Ga.
Nyers & Bro. F. E., Ashland, Ohio.
National Transit Pump & Mch. Co., Oil City, Pa.
Reilly Mfg. Co., J. J., Louisville, Ky.
Vogt Bros. Mfg. Co., Louisville, Ky.
Wood & Co., R. D., Philadelphia, Pa.
Worthington Pump & Mch. Corp., New York, N. Y.

PUMPING OUTFITS. (Diaphragm.)

Waterloo Cement Mchry. Corp., Waterloo, Iowa.

PUMPS.

ACID PROOF.
Duriron Casting Co., Dayton, Ohio.

AIR LIFT.

Ingersoll-Rand Co., New York, N. Y.
Sullivan Mchry. Co., Chicago, Ill.

ASPHALT AND ROAD OIL.

Kinney Mfg. Co., Boston, Mass.

BOILER FEED.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Cameron Steam Pump Wks., A.S., New York, N. Y.
Cameron Steam Pump Wks., A.S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Goulds Mfg. Co., Seneca Falls, N. Y.
Lea-Courtney Co., Newark, N. J.
Lucy Mfg. Co., New York, N. Y.
Moffatt Machy. Mfg. Co., Charlotte, N. C.
Murray Iron Works Co., Burlington, Iowa.
Myers & Bro. F. E., Ashland, Ohio.
Reilly Mfg. Co., J. J., Louisville, Ky.
Vogt Bros. Mfg. Co., Louisville, Ky.
Worthington Pump & Mch. Corp., New York, N. Y.

CENTRIFUGAL.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A.S., New York, N. Y.
Dayton-Dick Co., Quincy, Ill.
Erie Pump & Engine Co., Medina, N. Y.
Goulds Mfg. Co., Seneca Falls, N. Y.
Lea-Courtney Co., Newark, N. J.
Lucy Mfg. Co., New York, N. Y.
Morris Machine Works, Baldwinville, N. Y.
Mutual Foundry & Machine Co., Atlanta, Ga.
Novo Engine Co., Lansing, Mich.
Wood & Co., R. D., Philadelphia, Pa.
Worthington Pump & Mch. Corp., New York, N. Y.

DEEP WELL.

Cameron Steam Pump Wks., A.S., New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Goulds Mfg. Co., Seneca Falls, N. Y.
Layne & Bowler Co., Memphis, Tenn.
Novo Engine Co., Lansing, Mich.

DIAPHRAGM.

Novo Engine Co., Lansing, Mich.

DREDGING.

Buffalo Steam Pump Works, Buffalo, N. Y.
Erie Pump & Engine Co., Medina, N. Y.
Morris Machine Works, Baldwinville, N. Y.
Mutual Foundry & Machine Co., Atlanta, Ga.
Wood & Co., R. D., Philadelphia, Pa.
Worthington Pump & Mch. Corp., New York, N. Y.

FUEL-OIL.

Lockett & Co., Ltd., A. M., New Orleans, La.

HYDRAULIC.

Dunning & Borchert Press Co., Inc., Syracuse, N. Y.
Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A.S., New York, N. Y.
Cardwell Machine Co., Richmond, Va.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Federal Foundry & Machine Co., Philadelphia, Pa.
Worthington Pump & Mch. Corp., New York, N. Y.

POWER.

Lea-Courtney Co., Newark, N. J.
Worthington Pump & Mch. Corp., New York, N. Y.

STEAM.

Buffalo Steam Pump Co., Buffalo, N. Y.
Cameron Steam Pump Wks., A.S., New York, N. Y.
Cook, A. D., Lawrenceburg, Ind.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Emerson Pump & Valve Co., Alexandria, Va.
Lucy Mfg. Co., New York, N. Y.
Murray Iron Works Co., Burlington, Iowa.
National Transit Pump & Mch. Co., Oil City, Pa.
Reilly Mfg. Co., J. J., Louisville, Ky.
Vogt Bros. Mfg. Co., Louisville, Ky.
Worthington Pump & Mch. Corp., New York, N. Y.

TRIPLEX POWER.

Novo Engine Co., Lansing, Mich.

VACUUM.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Cameron Steam Pump Wks., A.S., New York, N. Y.
Dean Bros. Steam Pump Wks., Indianapolis, Ind.
Worthington Pump & Mch. Corp., New York, N. Y.

WATER-WORKS.

Dayton-Dick Co., Quincy, Ill.
Goulds Mfg. Co., Seneca Falls, N. Y.
Lea-Courtney Co., Newark, N. J.
Worthington Pump & Mch. Corp., New York, N. Y.

PUMP LEATHERS.

Graton & Knight Mfg. Co., Worcester, Mass.

PUNCHING AND SHEARING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.

**RAILINGS AND GRILLES, IRON AND
BRASS.** (Banks and Offices.)

Boles Iron & Wire Works, J. E., Detroit, Mich.
Dow Wire & Iron Works, Louisville, Ky.
Dufur & Co., Baltimore, Md.
Dufur, Baggott & Co., Baltimore, Md.
Ludlow-Saylor Wire Co., St. Louis, Mo.
McKenna Brass & Mfg. Co., Inc., Pittsburgh, Pa.
Meyers Mfg. Co., P., Hamden, Ohio.
Newman Mfg. Co., The, Cincinnati, Ohio.

RAILROADS. (Offering Industrial, Agricultural
and Commercial Opportunities.)

Carolina, Clinch, & O. R. R., Johnson City, Tenn.
Central of Georgia Railway, Savannah, Ga.
Georgia & Florida Rwy. Co., Augusta, Ga.
Model Land Company of the Flagler System,
St. Augustine, Fla.

RAILROAD EQUIPMENT AND SUPPLIES.
(New and Second-hand.)

American Frog & Switch Co., Hamilton, Ohio.
American Metallic Packing Co., Lexington, Ky.
American Rwy. Equipment Co., Pittsburgh, Pa.
Bailey-Leiby Co., The, Charleston, S. C.
Birmingham Rail & Loco. Co., Birmingham, Ala.
Carey Co., Thos. F., New York, N. Y.
Central Frog & Switch Co., The, Cincinnati, Ohio.
Cincinnati Frog & Switch Co., Cincinnati, Ohio.
Federal Equipment Co., Pittsburgh, Pa.
Foster Co., B., Pittsburgh, Pa.
General Equipment Co., New York, N. Y.
Georgia Car & Locomotive Co., Atlanta, Ga.
Granville Co., Joseph D., St. Louis, Mo.
Harris Bros. Co., Chicago, Ill.
Hartfelder-Garbutt Machinery Co., Savannah, Ga.
Hoffman & Co., Inc., E. C., Baltimore, Md.
Houston Railway Car Co., Houston, Tex.
Hyde & Company, Pittsburgh, Pa.
Joseph Iron Co., The, Isaac, Cincinnati, Ohio.
Kilby Frog & Switch Co., Birmingham, Ala.
Kielbasas Co., H., Pittsburgh, Pa.
Light Railway Equipment Co., Philadelphia, Pa.
Machinery & Supply Co., Greensboro, N. C.
Males Co., The, New York, N. Y.
May & Turner Co., Atlanta, Ga.
Metzger, Louis H., Mobile, Ala.
Miller-Crippen Machinery Co., Inc., Syracuse, N. Y.
Moore Bros. Chicago, Ill.
Morrison & Rissman, Buffalo, N. Y.
National Steel Rail Co., St. Louis, Mo.

Pittsburgh Mchry. & Equip. Co., Pittsburgh, Pa.

Robinson & Orr, Pittsburgh, Pa.
Shaw, Willis, Chicago, Ill.
Sherwood, E. C., New York, N. Y.
Southern Iron & Metal Co., Jacksonville, Fla.
Torbert, A. C., Chicago, Ill.
United Amer. Iron & Steel Co., New York, N. Y.
United Machine Works, New York, N. Y.
Weir Frog Co., Cincinnati, Ohio.
West Virginia Rail Co., Huntington, W. Va.
Wilson & Co., E. H., Philadelphia, Pa.
Witcher, Mack Co., St. Louis, Mo.
Yampolsky, Geo., Clarksville, N. Y.
Zelnicke Supply Co., Walter A., St. Louis, Mo.

RAILROAD CARS. (Box, Flat, Gondola.)

American Rwy. Equipment Co., Pittsburgh, Pa.
Houston Railway Car Co., Houston, Tex.

RAILROAD FROGS AND SWITCHES.

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American Rwy. Equipment Co., Pittsburgh, Pa.
Central Frog & Switch Co., The, Cincinnati, Ohio.
Cincinnati Frog & Switch Co., Cincinnati, Ohio.
Federal Equipment Co., Pittsburgh, Pa.
Frank, M. K., Pittsburgh, Pa.
Hyde & Company, Pittsburgh, Pa.
Kilby Frog & Switch Co., Birmingham, Ala.
Light Railway Equipment Co., Philadelphia, Pa.
Metzger, Louis H., Mobile, Ala.
Morrison & Rissman, Buffalo, N. Y.
Robinson & Orr, Pittsburgh, Pa.
Weir Frog Co., Cincinnati, Ohio.

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Carnegie Steel Co., Pittsburgh, Pa.
 Champion Bridge Co., Wilmington, Ohio.
 Chesapeake Iron Works, Baltimore, Md.
 Cincinnati Iron & Steel Co., Cincinnati, Ohio.
 Des Moines Bridge & Iron Co., Des Moines, Iowa.
 Dietrich Bros., Baltimore, Md.
 E. H. Mann & Co., Inc., E. C., Baltimore, Md.
 International Bridge & Iron Co., Evansville, Ind.
 Jones & Laughlin Steel Co., Pittsburgh, Pa.
 Lackawanna Steel Co., Lackawanna, N. Y.
 Memphis Steel Const. Co. of Pa., Pittsburgh, Pa.
 Midvale Steel & Ordnance Co., Philadelphia, Pa.
 Phoenix Iron Co., Philadelphia, Pa.
 Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
 Reilly Mfg. Co., J. J., Louisville, Ky.
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 Richmond Structural Steel Co., Richmond, Va.
 Roanoke Iron & Bridge Works, Roanoke, Va.
 Sneed Architectural Iron Works, Louisville, Ky.
 Steel Products Co., The, Savannah, Ga.
 Tennessee Coal, Iron & R. R. Co., Birmingham, Ala.
 Vincennes Bridge Co., Vincennes, Ind.
 Virginia Bridge & Iron Co., Roanoke, Va.
 Walsh & Weidner Boiler Co., Chattanooga, Tenn.

SULPHUR.
 Freeport Sulphur Co., Freeport, Texas.

SULPHURIC ACID.
 Davison Chemical Co., Baltimore, Md.
 Du Pont de Nemours & Co., E. I., Wilmeton, De.

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 Babcock & Wilcox, New York, N. Y.
 Power Specialty Co., New York, N. Y.

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OVERHEAD.
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Co., Columbus, Ohio. Edwards Mfg. Co., Cincinnati, Ohio.</p> <p>TRUCK TIRES. Goodyear Tire & Rubber Co., Akron, Ohio.</p> <p>TUBES. (Roller.) Allegheny Steel Co., Pittsburgh, Pa. Cincinnati Iron & Steel Co., Cincinnati, Ohio. Midvale Steel & Ordnance Co., Philadelphia, Pa. National Tube Co., Pittsburgh, Pa.</p> <p>TUBE WELL STRAINERS. Cook, A. D., Lawrenceburg, Ind.</p> <p>TUBING. (Rubber.) Cincinnati Rubber & Mfg. Co., Cincinnati, Ohio. Goodyear Tire & Rubber Co., Akron, Ohio.</p> <p>METAL. Griffin, James F., Philadelphia, Pa. La Belle Iron Works, Steubenville, Ohio. Ward's Sons Co., Edgar T., Philadelphia, Pa.</p> <p>TURBINES. HYDRAULIC. Davis Foundry & Machine Works, Rome, Ga. Lefell & Co., James, Springfield, Ohio. Smith Co., S. Morgan, York, Pa. Trump Mfg. Co., The, Springfield, Ohio. Wellman-Leaver-Morgan Co., The, Cleveland, O.</p> <p>STEAM. Allis-Chalmers Mfg. Co., Milwaukee, Wis. General Electric Co., Schenectady, N. Y. Westhouse Elec. & Mfg. Co., East Pittsburgh, Pa.</p> <p>TURN BUCKETS. Broderick & Bascom Rope Co., St. Louis, Mo.</p> <p>TURNABLES. American Bridge Co., New York, N. Y. Virginia Bridge & Iron Co., Roanoke, Va.</p> <p>TWINE. Columbia Rope Co., Auburn, N. Y. Kelley Co., Henry C., New York, N. Y.</p> <p>UNIONS. Dart Mfg. Co., E. M., Providence, R. I.</p> <p>UPHOLSTERING MATERIAL. (For Autos & Furniture.) Du Pont Fabrikoid Co., Wilmington, Del.</p> <p>VACUUM PANS. Birmingham Mch. & Fdry. Co., Birmingham, Ala.</p>	<p>VALVES. Bourbon Copper & Brass Wks. Co., Cincinnati, O. Cincinnati Rubber & Mfg. Co., Cincinnati, Ohio. Columbian Iron Works, Chattanooga, Tenn. Crane Co., Chicago, Ill. Frick Co., Waynesboro, Pa. Glamorgan Pipe & Fdry Co., Lynchburg, Va. Goodyear Tire & Rubber Co., Akron, Ohio. Lunkenheimer Co., The, Cincinnati, Ohio. Vogt Mch. Co., Inc., Henry, Louisville, Ky. Westhouse Traction Brake Co., Wilmerding, Pa.</p> <p>VALVES. ACID PROOF. Duriron Casting Co., Dayton, Ohio. Lunkelheimer Co., Cincinnati, Ohio.</p> <p>GAS REVERSING. Morgan Construction Co., Worcester, Mass.</p> <p>VARNISH. Arco Co., Cleveland, Ohio.</p> <p>VAULT DOORS. National Safe Co., Cleveland, Ohio. York Safe & Lock Co., York, Pa.</p> <p>VENEER CUTTING MACHINERY. American-Blakelee Mfg. Co., Birmingham, Ala. Titus, E. E., Petersburg, Va.</p> <p>VENTILATING APPARATUS. (Engineers' and Contractors.) Buffalo Forge Co., Buffalo, N. Y. Carrier Engineering Corp., New York, N. Y. Clavage Fan Co., Kalamazoo, Mich. Skinner Bros. Mfg. Co., St. Louis, Mo.</p> <p>VENTILATORS. (Roof.) Edwards Mfg. Co., Cincinnati, Ohio. Merchant & Evans Co., Philadelphia, Pa.</p> <p>VISES. Hollands Manufacturing Co., Erie, Pa. Western Tool & Mfg. Co., Springfield, Ohio.</p> <p>WAGONS. (Dump.) Western Wheeled Scraper Co., Aurora, Ill.</p> <p>WAGON LOADERS. Bonney Supply Co., Inc., Rochester, N. Y. Hulse Mfg. Co., Geo., New York, N. Y. Jeffrey Mfg. Co., Columbus, Ohio. Link-Belt Co., Philadelphia, Pa. 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Page Steel & Wire Co., Adrian, Mich.</p> <p>INSULATED. Electric Cable Co., New York, N. Y.</p> <p>TELEPHONE, TELEGRAPH. American Steel & Wire Co., Chicago, Ill.</p> <p>WELDING. Page Steel & Wire Co., New York, N. Y.</p> <p>WIRE CLOTH. (Iron, Steel, Brass, etc.) Caldwell & Son Co., H. W., Chicago, Ill. Ludlow-Saylor Wire Co., St. Louis, Mo. Meyers Mfg. Co., The, Fred J., Hamilton, Ohio. New Jersey Wire Cloth Co., Trenton, N. J. Wright Wire Co., The, Worcester, Mass.</p> <p>WIRE COILING MACHINERY. Sleeper & Hartley, Inc., Worcester, Mass.</p> <p>WIRE GOODS. Roller Iron & Wire Works, J. E., Detroit, Mich. Cyclone Fence Co., Waukegan, Ill. Dow Wire & Iron Works, Inc., Louisville, Ky. Dufur & Co., Baltimore, Md. Dufur, Baggett & Co., Baltimore, Md. Gulf States Steel Co., Birmingham, Ala. Meyer Mfg. Co., The, Fred J., Hamilton, Ohio. Midvale Steel & Ordnance Co., Philadelphia, Pa. New Jersey Wire Cloth Co., Trenton, N. J. Stimpson Co., Edwin B., New York, N. Y.</p> <p>WIRE NAIL MACHINERY. Sleeper & Hartley, Inc., Worcester, Mass.</p> <p>WIRE NETTING. Ludlow-Saylor Wire Co., St. Louis, Mo. New Jersey Wire Cloth Co., Trenton, N. J.</p> <p>WIRE ROPE. Gulf States Steel Co., Birmingham, Ala.</p> <p>WIRE ROPE CLIPS. American Steel & Wire Co., Chicago, Ill. Broderick & Bascom Rope Co., St. Louis, Mo.</p> <p>WIRE STRAIGHTENING AND CUTTING MACHINERY. Sleeper & Hartley, Inc., Worcester, Mass.</p> <p>WOOD DISTILLATION EQUIPMENT. Struthers-Wells Co., Warren, Pa.</p> <p>WOOD PIPE. (For Water, etc.) Michigan Pipe Co., Bay City, Mich. Standard Wood Pipe Co., Williamsport, Pa. Wyckoff & Son Co., A., Elmira, N. Y.</p> <p>WOOD. (Preservative.) Barrett & Co., New York, N. Y. Du Pont Chemical Works, New York, N. Y.</p> <p>WOODWORKING MACHINERY. Kline, Lewis T., Alpena, Mich.</p> <p>WRENCH MANUFACTURERS. Lakeside Forge Co., Erie, Pa.</p> <p>YARN. (Tanned Sial.) Columbian Rope Co., Auburn, N. Y. Kelley Co., Henry C., New York, N. Y.</p> <p>ZINC. New Jersey Zinc Co., New York, N. Y.</p>
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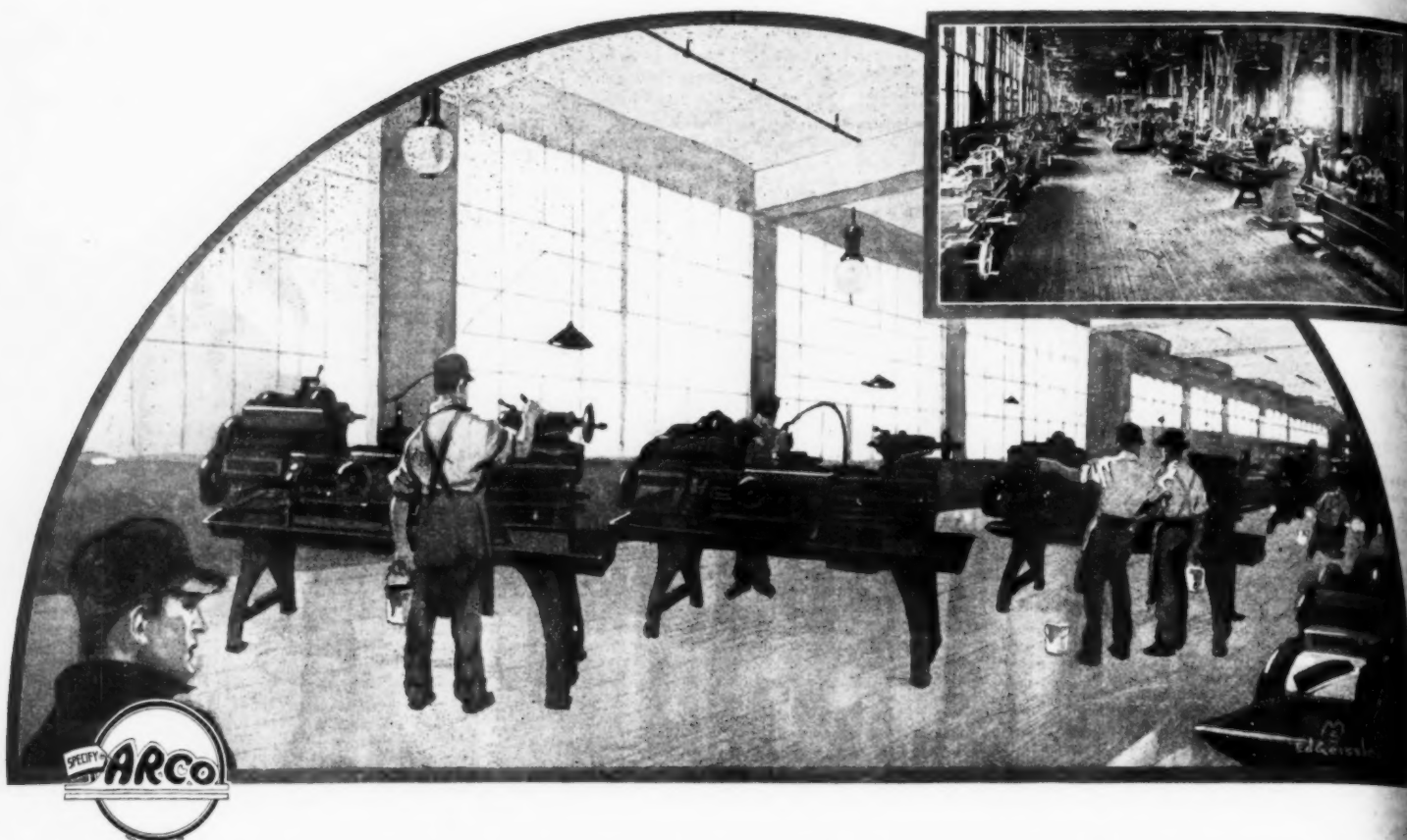
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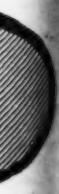
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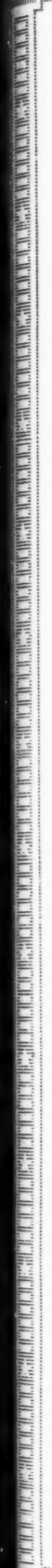
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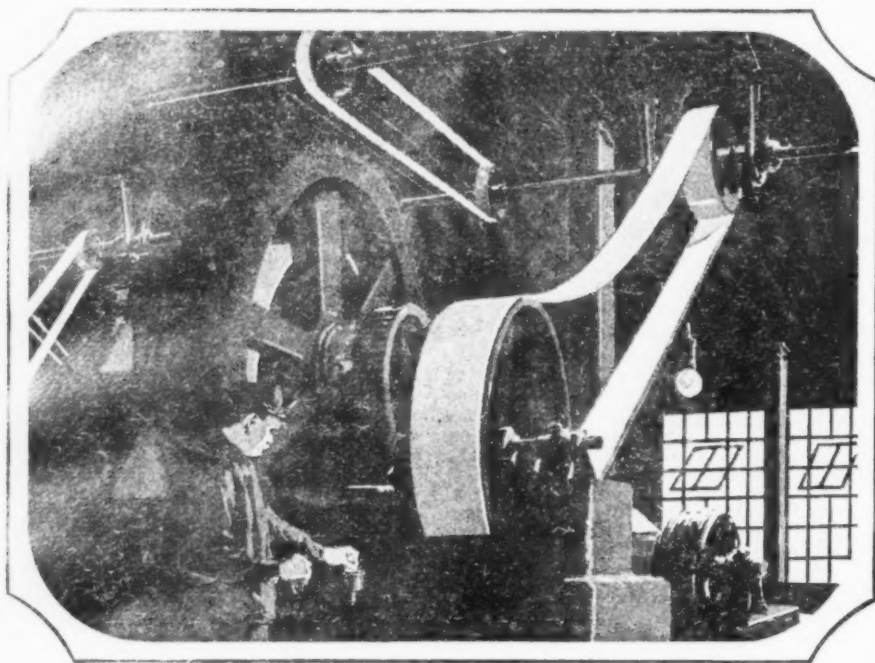
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